Connacht Regional News

Traditiones et Spiritum Amateur Radio Servandum

Editor: *Steve Wright EI5DD* | *wright14@gmail.com* | **Vol. 1 Issue 8** | **October 2022**

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Portable Operation - Antenna Modelling - Club Activities

Welcome to the Eighth Edition of the Connacht Regional News Magazine

The Connacht Regional News Magazine is 100% *inclusive, unbiased*, and primarily written for the local Clubs and Groups in Connacht although there is a wealth of information that is of interest to all radio operators. More recently we have decided to include all aspects of Radio Communications and associated Groups. *Please Note:* We are *totally freelance* and in absolutely no way, tied into, or affiliated to, any one National Society. This enables us to report activities of *ALL* Radio Groups and Clubs in Ireland who wish to supply news items of interest.

It should be noted that, by taking a freelance stance, we are not favouring any Club Group or Society. If there is an absence of material from a Society or Club, it is because they did not supply material, *naturally beyond our control.*

We are fortunate that the West of Ireland has seven Radio Clubs within Connacht all of which are very active, as can be seen from their activities in our publication.

We do repeat forthcoming activities in several editions to give advanced notice of the event and to enable clubs and groups to prepare for them.

We promote >>ALL<< radio activities that are due to occur rather than report those that have happened. If you have an item of interest, please feel free to forward it to Steve. EI5DD, who will include it in the following newsletter.

Due to the overwhelming success and readership of the Connacht Regional news, now going viral, we will produce a publication MONTHLY.

A link may be found on the Galway VHF Group Web Page for the most recent copy of the Publication.

We Welcome Feedback so if you enjoyed this publication please mail Steve EI5DD:

wright14@gmail.com

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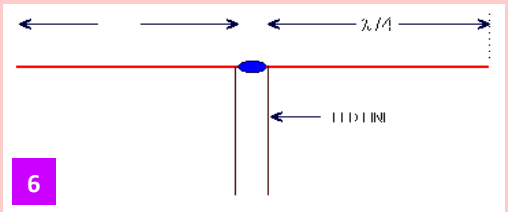
October 2022

Submitting Items To This Magazine

We are always delighted to receive any radio related material for this magazine.

It does take time to lay out a publication so we have deadlines so items should be submitted by the 26th of the month giving us plenty of time to prepare for publication.

Please E-mail us in advance of submission so that space can be allocated.



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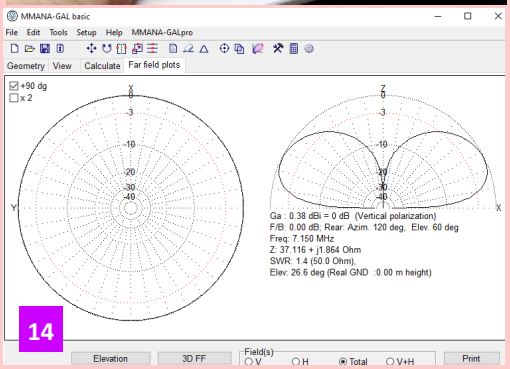

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Cover Image

Railways On the Air Activity at Stradbally Woodland Railway Activated by the Collective Communications Group

Views expressed in this publication do not necessarily reflect the views of the Editor, those of the Carrion Press or the Galway VHF Group

News and Forthcoming Events

National HamFest / RSGB Convention 2022

As a result of the relaxation of COVID restrictions the RSGB will be holding a normal "in person" HamFest / Convention on the **7th – 9th of October** in the Kents Hill Park Conference Centre, Milton Keynes, MK7 6BZ Details about lectures and speakers will be announced over the coming weeks. The programme includes five streams so there will be something for everyone .AMSAT UK will joining them this year and will host one of the streams. There will plenty of equipment to choose from at a huge rally in the venue.

AMSAT UK Colloquium

AMSAT-UK is very happy to announce the 2022 AMSAT-UK International Space Colloquium will be held as part of the RSGB Convention on **October 8th - 9th** at the Kents Hill Park Conference Centre, Timbold Drive, Milton Keynes, MK7 6BZ. The weekend event attracts an international audience that ranges from those involved in building and operating amateur radio satellites to beginners who wish to find out more about this fascinating branch of the hobby. Booking for the RSGB Convention is at https://rsgb.org/main/about-us/rsgb-convention/ Details of the event can be found at https://amsat-uk.org/colloquium/

D60AE DX-pedition to Comoros October '22

The Radio Club de Provins, F6KOP - France will be organising he D60AE DX-pedition to Comoros (AF-007) from the **5th to the 17th of October 2022**. There will be 13 operators which will include Dave EI9FBB and Jeremy EI5GM. The operating QTH, at the Retaj Moroni Resort, is ideally situated close to the sea for excellent take off with ample space for antennas. The group intend to be active on all modes:

More info from:
https://comores2022.wordpress.com/

Jamboree on the Air 14th - 16th of October

JOTA - JOTI is an annual event that takes place the third weekend of October. Future dates are: - **14th to 16th of October 2022.** For more information please visit the event website: www.world-jotajoti.info

Jamboree on the Air - Jamboree on the Internet (JOTA-JOTI) promotes a Scout's sense of belonging to the worldwide Scout Movement and builds cultural awareness, develops tolerance, advocates sharing and collaboration as well as demonstrates teamwork. It provides exciting opportunities for young people to explore technology and to develop technical skills including fostering innovation and creativity through communicating with other Scouts. A wide range of activities using communication technology are the chief methods of attaining these goals.

JOTA-JOTI strives for a meaningful engagement of as many young people from as many parts of the world as possible annually on the third weekend in October. This weekend is also an occasion to celebrate Scouting and to generate positive energy to support the development of the Scout Movement.

The event seeks to promote quality Scouting in a manner faithful to the purpose, principles and method of Scouting and consistent with the needs and aspirations of young people in today's world. The JOTA-JOTI programme shall be a reflection of the Promise, Law, Principles and Method of Scouting, as defined by the WOSM Constitution, and shall also reflect the most up-to-date policies and initiatives of WOSM relating to youth programme for all ages.

If you have a local Scouts troop near you, why not introduce yourself and offer the facilities of your club station for the JOTA weekend.

YOTA Month

December is Youngsters On The Air (YOTA) month. This brings an opportunity for individuals, clubs, schools and groups to run an amateur radio station with the aim of getting youngsters active on the air. Activations can be big or small and can be made however you wish.

Irish Net

Active not only on Sundays, but most weekdays starting at around **16:00 UTC, the informal gathering on 14.156 MHz** frequently suffers from QRM during contests and DXers unaware of this long standing net of North American operators with an Irish connection. In a recent contact on 20m with WI1IDP, QTH Tuscon Arizona, operator Jerry confirmed that the net now also uses the **17m band operating on 18.114 MHz**, avoiding the increased QRM on 20m and taking advantage of improved propagation conditions

News and Forthcoming Events

EURAO General Assembly 2022: New Members - New Benefits - Insurance

The General Assembly 2022 of EURAO was held on the first Saturday of July via the internet. The incorporation of two new member associations, both Italian, was approved. The beneficiaries of the Radio Amateur Insurance have also been extended to the members of the member associations, starting with the members of their boards of directors. ***For just 15 Euro Membership you can get an individual AXA Public Liability Insurance Cover of €9,000,000. This is applicable to all Member states of the EU.***

Collective Communications New Radio Group in Ireland

Keith (EI5KJ) informs us that following on from their recent highly successful weekend portable operation during the SSB Field Day, South East Ireland's newest radio group, known as **Collective Communication**, are in the process of arranging further radio activities and events.

Collective Communication is an informal bunch of folk who enjoy radio communication, friendly company, and a 'Can-Do' attitude. With a Facebook page and over 146 followers after just a couple of weeks of existence the Waterford based group is growing very quickly.

The last activity in which the group participated was celebrating Railways On The Air over the weekend of the 24th and 25th September from the Stradbally Woodland Steam Railway, Laois, who are Ireland's oldest steam preservation society. By coincidence the railway was holding an open day over the same weekend so there should be plenty of public present to witness our wonderful hobby in action.

Following that, over the weekend of the 14th to the 16th of October will see Collective Communication involved with the Copper Coast Scout group of Ballyscanlon, Tramore, County Waterford operating "Jamboree on the Air." Practical activities and demonstrations are being arranged for the scouts to participate in as well as radio communication of course. Members of Collective Communication are very experienced at JOTA involvement and are arranging activities that are known to be engaging and of interest to young folk of today.

Further events and activities are in the planning stage and include the possibility of a monthly net. All will be made known on the groups Facebook page as and when firm dates and times have been finalized. If you or anyone you know, whether licenced or unlicenced, are curious about Collective Communication and their futures activities, look up our Facebook page or contact:

John EI3HQB on 086- 870 9265

In Germany, a New Entry-Level license class 'N' on its way

DARC reports on the planned introduction of an entry-level amateur radio license, it will be limited to just 10w EIRP in the 144 and 430 MHz bands but they can build their own equipment.

The chairman of the DARC e. V. and the Round Table Amateur Radio (RTA), **Christian Entsfellner, DL3MBG** was pleased: "The new regulation implements long-standing requirements of the DARC and the Round Table Amateur Radio. Remote operation will finally be allowed in the future. The Ministry has also implemented our demand for a beginner class, which has existed since 2008.

This makes it much easier to get started with amateur radio." While the existing classes E and A are raised in level due to the introduction of new topics from digital technology, class N focuses on operational knowledge, regulations and basic knowledge of the technology. Holders of the new Class N will be allowed to transmit on 2m and 70cm with a maximum power of 10W EIRP. "The new entry-level class should offer access to amateur radio in particular to young people and older people in accordance with international requirements," explains board member Ronny Jerke, DG2RON. The legally stipulated self-build right is not restricted, so even beginners can develop, set up and put into operation radio devices or hotspots themselves.

The exam will follow a cumulative system, e.g. B. is known from the US amateur radio test. First of all, the exam for class N is taken, which already contains all questions from the areas of operational knowledge and regulations. The technical test for class E and then for class A can then be taken.

"The examination catalogs developed by the DARC for the three classes are structured in such a way that the content and questions are not repeated.. Content that has already been examined in a lower class no longer plays a role in the examination for a higher class. So, all future radio amateurs go through the exams of class N, through E to class A. It should be possible to take all the exams in one day.

The previously unregulated remote operation has been included in the new amateur radio regulation. Holders of license class A may in future operate amateur radio stations remotely and also allow other radio amateurs to use class A.

Another important innovation concerns the training radio operation, which will be possible in the future without a separate training call sign. Instead, adding the prefix "DN/" makes any Class E or Class A callsign a training callsign.

More South African Countries Allocated 60m

The South African Radio League (SARL) announce that three new African countries have joined the ranks of 5 MHz / 60 m operators. They are **Botswana**, **Lesotho** and **eSwatini** (formerly known as Swaziland). Each has the new WRC-15 Amateur Secondary Allocation of 5351.5 – 5366.5 kHz. This makes a total of **89 countries** now on the band worldwide.

News and Forthcoming Events

FISTS Autumn Gathering

The FISTS CW Club will be holding an Autumn gathering on the **22nd of October** from **19:00 – 23:59 UTC.** The event will be a genuine QSO Party. This is simply an opportunity to rekindle old friendships and make new ones. FISTS members welcome contacts with fellow members and non-members with slower morse, higher speed CW or somewhere in between. Further information will appear on the FISTS Website www.fists.co.uk FISTS centres of activity are:

1.818 MHz	3.558 MHz	7.028 MHz
10.118 MHz	14.058 MHz	21.058 MHz
24.908 MHz	28.058 MHz	

Saint-Malo Radio Club Special Event

Members of the Saint-Malo Radio Club will activate special event station, TM8R, during the 'Route du Rhum', a sailing ship race from Saint-Malo (France) to Pointe-à-Pitre (Guadeloupe Island). The activity will take place between October 27th and November 6th. The and team will be active on all bands, all modes. For more information, see the "Association des radios amateurs de la côte d'Emeraude" (ARACE) Website at (http://www.arace.fr/) as well as (http://www.routedurhum.com/fr) page. QSL via F5BNJ, direct, by the Bureau, ClubLog or LoTW. An online log will be available at: http://clublog.org/logsearch/TM8R

WinRFCalc

WinRFCalc free RF calculator now has a website to keep users informed about the capabilities of WinRFCalc, a website is launched on https://rfcalculator.com/ where current and future calculation tools are shown.

Updated RSGB EMF Calculator

The RSGB have released an updated version of their online EMF Calculator to enable radio amateurs to check EMF exposure limits. Version v2.0.1 is available as a web app athttps://rsgb.org/emfcalculator RSGB EMF page https://rsgb.org/emf

We Have a Facebook Page

The Connacht Regional News Magazine

https://www.facebook.com/groups/1437072523434876

First Contact Between UK and South Africa

Paul G7PUV has tweeted a video of his 40 MHz SSB contact with **Willem ZS6WAB** in Polokwane, South Africa. On Saturday, September 17, 2022. A video of this contact may be found at https://twitter.com/AceBlaggard/status/1571161819846164482 Paul is one of a number of UK radio amateurs who have applied to Ofcom for a licence to use the 40 MHz band. In South Africa the 40 MHz (8m) band is included as standard amateur radio licence. Radio amateurs have a Primary allocation of 40.675—40.685 MHz and can run up to 400 watts output.

Collective Communications JOTA 2022

This year's JOTA will be run from Ballyscanlon Lake just outside Tramore, home of the Copper Coast Scout Group.

This year we intend to operate on both Saturday and Sunday and in addition to the Copper Coast Scout Troop we will also include the Tramore 8th, the Tramore 36th and the Sacred heart Troops

The Groups will have a wide choice from Radio HF and VHF operation, including a possible Satellite Link and FT8 and JOTI. Our workshops will again be popular with the electronic kits built by Wayne EI7HKB. CW is always popular, and we have a plan to include this in a treasure hunt.

There will be plenty of activity for a fun packed weekend.

Check out our *previous* activities on YouTube:

SSB field day

https://www.youtube.com/watch?v=Pea7yh8kJnI&ab_channel=johntubbritt

ROTA

https://www.youtube.com/watch?v=O9inODHSGpU&ab_channel=johntubbritt

Would You Like to Promote Your Club and its Activities?

Is your club planning an event in the next month?

Are you planning a club activity?

Are you setting up a new Repeater or Gateway?

Drop us a line or two and we will include your item in the Connacht Regional Newsletter

Bushvalley Amateur Radio Club

Annual Radio Rally

On **Sunday 6th November 2022** Bushvalley ARC will hold their Annual Radio Rally at Limavady Football Club, The Showgrounds, Rathmore Road, Limavady **BT49 0DF**.

All proceeds from the rally will be in aid of The Air Ambulance Northern Ireland and we look forward to a good attendance to support this very worthy charity.

The usual traders will have their wares on show along with a bring & buy stall, and we have some excellent raffle prizes this year.

Doors open at **11:00 UTC**, and talk in will be available on **145.575 FM.**

If anyone would like to try the **RSGB Morse test** we will have an approved assessor in attendance, however any test MUST be pre-booked before the rally at https://thersgb.org/services/morse/testing/

For further information on the rally or Bushvalley ARC

please email bushvalleyarc@gmail.com

Experimental Radio - Part 1

EXPERIMENTAL RADIO - Simple stuff - Build your own HF, Single or Multiband Dipole Antenna on a single feeder if desired.

Make your own wire antenna, spend your money on things you cannot make so easily. You can feed it with an open wire line and use an ATU or a BALUN at the radio end, however, and much simpler, you can use one of our BALUNs (or any 1..1 BALUN) at the feed point i.e. the centre of the antenna itself and then use an RG8U cable with excellent results.

For the elements the greater the diameter of the wire the more broadband the antenna becomes; I use 2 mm diameter hard drawn copper.

Using E.G RG58 U coaxial cable is practical for building broadband dipole elements. Some crazy guys call this system double bazooka (BS ???) for goodness sake! It's a broadband dipole and you can make it yourself so simple and easy.

There are problems however in supporting such antennas because of the weight of the coax and the risk of water ingress in the longer term and no gain at all directional properties) exists over a standard dipole. Forget the specs on the package; again it's more BS. We will address Antenna Gain in another article.

The BALUN should be rated well above the proposed power level for safety (SWR spikes are the biggest risk)

Below you can see that a half wave antenna length is derived from dividing 468 by the frequency in MHz and further on in this article -how the formula is derived

Formula for Dipole Antenna

Use the formula below and cut a little longer to allow for pruning to resonance and for insulators

$$\lambda/2 = \frac{468}{f\,\text{MHz}}$$

For multiband operations, you can attach several elements to the same centre BALUN or centrepiece. Start with the lowest Frequency and prune to the desired resonance centre frequency.

Then add the next set of elements and prune to frequency, checking that the first pair of elements are still happy. Continue adding as required. Space the elements apart as much as possible. A horizontal or Inverted-Vee configuration works well. Always keep the feed point as high as possible.

Bear in mind that the ideal height for a horizontal dipole is half a wavelength above the ground. Note, that this is around 130 feet at 80 meters/3.5 MHz a bit impractical.

As the frequency goes higher it is very practical to achieve the 1/2 λ height above ground. At 40 meters/7 MHz you are looking at 66 feet., however, at 20 meters,14 MHz, it is just 33 feet very practical as you see in the first drawing below for a 20-meter dipole at 30 feet

Included are drawings borrowed from ***Frederick R. Vobbe, W8HDU.*** **Fig.1** - A 20 metre antenna 30 feet off the ground, notice that the elevation or take-off angle (green line) is about 35 degrees not bad at all-also understand that if the antenna was mounted higher the take-off angle would reduce. That means far longer distance working as the signal is refracted back to earth from a farther distant point and at a much more advantageous angle-the nearer the take -off angle gets to around 15degrees, the greater the distance (DX) you will achieve, anything less than 15 degrees take-off angle is hard to achieve and can be counter-productive as near field obstacles then come more into focus.

The same antenna at only 20ft above the ground will result in a higher radiation pattern thus reducing the distance travelled after refraction back from the ionosphere. **Fig.2**

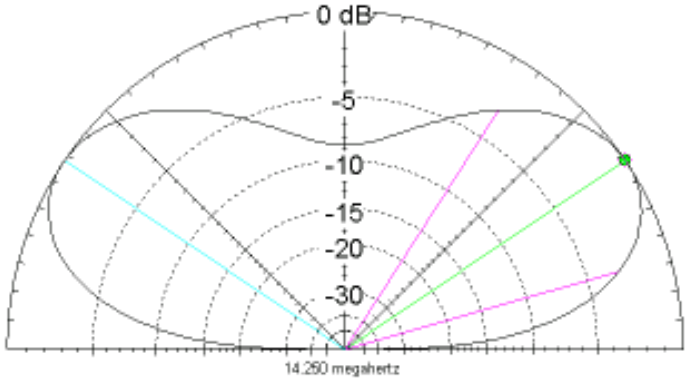


Fig.1 Radiation from a 20 metre dipole 30 ft off the ground

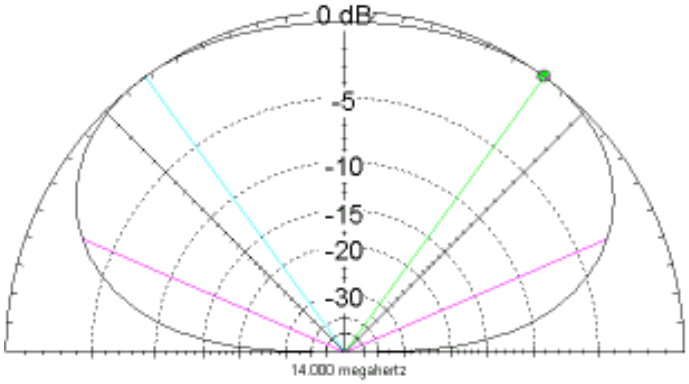
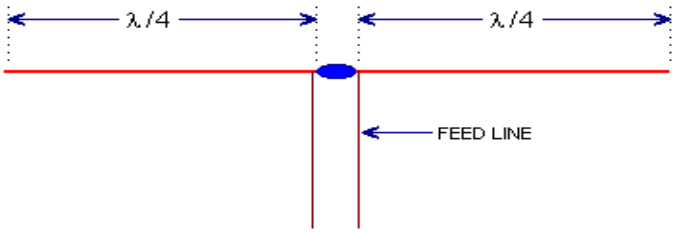


Fig.2 Radiation from a 20 metre dipole 20 ft off the ground

A Sky Warmer—Say no more!

A simple Dipole System is a pair of 1/4 λ elements fed in the centre.



Radio waves travel at the speed of light in free space (300 000 000 meters/sec and a little slower in a cable. Dividing this distance by the frequency in use or the desired frequency equals the wavelength at that frequency.

The associated half-wave dipole antenna is half of this full wavelength. each element is a quarter wavelength This half-wave dipole is fed in the centre via the feedline. Then there are a few considerations as follows:

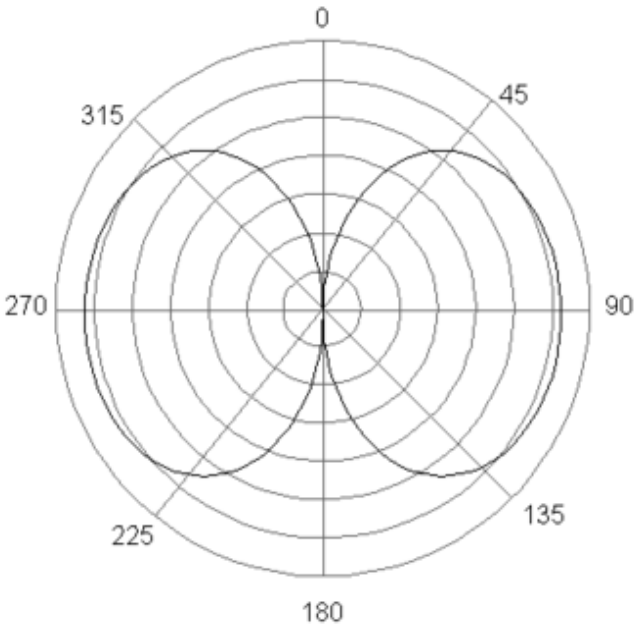
A good VSWR meter and a transmitter or an antenna analyser are required for the next steps.

If the feedline is just a coaxial cable typically 50 ohms, the antenna quarter wave sections are adjusted equally until the least reflected power from the antenna occurs on the desired centre frequency. Bear in mind the upper end of the coaxial feeder in the above case will almost always become part of the antenna is non-radiating and just burning up some valuable RF power

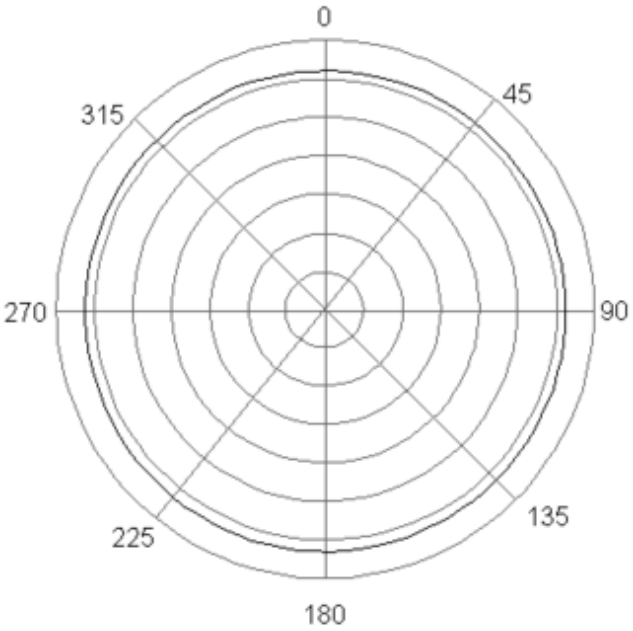
However, should a good quality Balun or Choke balun be installed into the centre point of this dipole, then the coaxial cable will not become part of the resonant antenna and the element now are better tuned to radiate all the RF power arriving at the feed point of the elements.

The other option is an open wire feeder typically 400-600Ω impedance. A good ATU at the Transmitter end–then the antenna can be tuned across a much wider range of frequencies with excellent results on the resonant frequency of the elements & good results on other frequencies. (there is so much that can be said here that it would form a separate article)

The Radiation Patterns of a Dipole in Free Space



Radiation from Dipole Viewed From Above



Dipole Viewed From the End of the Wire

Keep Your Radio Dry

Sometimes when we are on a tight budget we are inclined to purchase a bargain. The bargain can turn out to be rubbish especially if purchased online. This is what happened to our radio club a few years back. Cheap waterproof pouches were not durable, frayed easily and hardened in the cold weather. This led to cracks and water penetrating the so-called waterproof pouches.

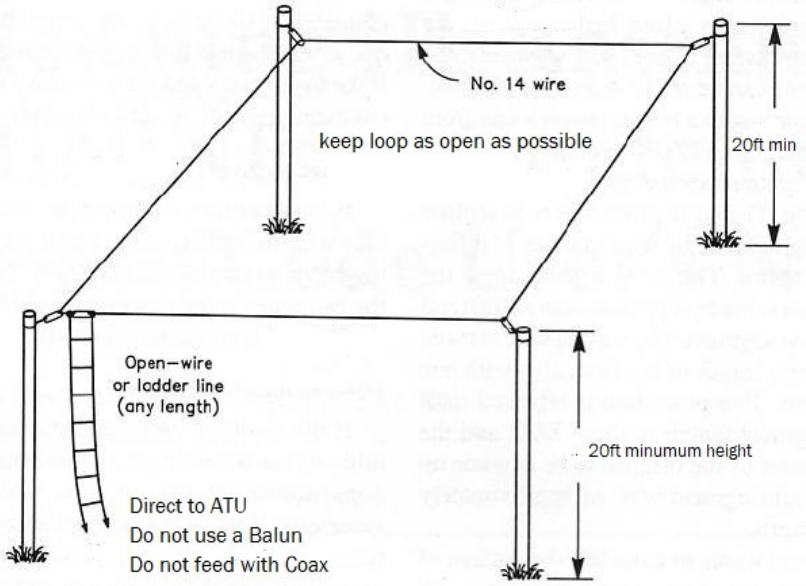
About five years ago one of our team did some research and decided to purchase Aquapac radio pouches from a company in the UK. Being a serious mountaineer, he had previously purchased protective cases for his Garmin GPS device and mobile phone and was really impressed. When the waterproof pouches arrived we were really impressed with how flexible the plastic material was allowing the operator to easily turn on the radio, adjust volume and change channels. A further hidden bonus of these pouches is that they completely mute wind noise especially in harsh conditions on the mountain.

At the time, these pouches cost €23 per unit. Moving on five years the protective pouches are still as good as the first day. Since then, we have seen members of the RNLI and other rescue teams using this brand. So if you are interested in SOTA, hillwalking or a member of a voluntary group I would highly recommend "Aquapac" as an essential companion to protect your expensive radio from the elements.

https://aquapac.net/product-category/waterproof-vhf-radio-cases/

The G4HOL Loop Antenna

The G4HOL Loop antenna is an excellent multi-band and omni-directional antenna giving relatively quiet reception due to the fact that it is a full-wave loop. An 80metre band loop will work well on all bands HF with a tuner in line. If situated horizontally and just 20ft above ground, the Loop will give good NVIS results resulting in operation within Ireland or from Ireland to the UK. It is inexpensive to make with the major cost being the balanced feeder.



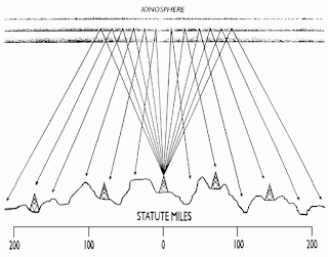
The G4HOL Loop Antenna

40 metre operation was always an interest especially for working around Ireland and into the UK for the WAI or the WAB Awards. Band conditions were generally noisy on many occasions and generally the bands were open to places further afield with variable band conditions.

Mike, G4HOL, from the Purley and District Radio Club, in the UK, used to boom into Ireland consistently when most of the other stations were weak and watery. Not only him, but one or two others were using a similar antenna system. Almost every day their signals were the strongest on the band without the aid of linear amps. In fact one operator was only using 10 watts on his system and still coming at a S9+.

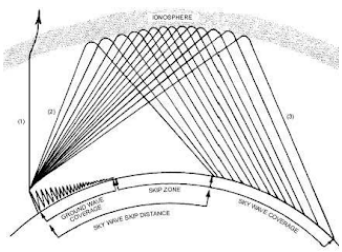
When quizzed about the antenna system, it was discovered that they were using loop antennas for 40 metres and these were not placed that high off the ground. The fact of the matter was that they were using NVIS techniques to launch the signal almost vertically to take advantage of short skip into the dead zone

As can be seen in the diagram, the antenna is a simple loop antenna fed in one corner with open wire feeder. It doesn't matter whether it is 300, or 450 ohm feeder but don't use coax under any circumstances.



Taking advantage of High Angle Radiation for NVIS operation

The following day this antenna was set up in my back garden. At very best, the antenna could be supported at 20 ft above ground at the end of the garden and maybe 25 ft at the house. The antenna was fed in one corner using 450 ohm ladder line.



Hoisting the loop to a greater height lowers the angle of radiation allowing more distance to be covered

The system was tuned using a KW EZEE Match ATU. Any ATU capable of matching to balanced line would be suitable.

At 20 ft, the 40 metre loop would give a relatively high angle of radiation thereby making it more suitable for local contacts around Ireland and semi-local contacts around the UK.

Immediately the advantages of this antenna were noted. Every day the band was open towards the UK and signal strength were consistently good. On Sunday mornings, the signals into the news reader, located in Dublin, had improved dramatically. So much so, that he asked me had I bought a new linear amplifier.

Being a full-wave loop, this antenna would work on harmonics of the 40 metre band. This was an advantage over the previous 40 metre centre fed dipole. The 20, 15, and 10 metre bands could be worked as well.

Being a loop antenna, there was less atmospheric noise on the bands. Obviously , if the antenna were strung higher from the ground. The angle of radiation would reduce resulting a more DX-y antenna. In fact, on 20 metres the radiation pattern is lower and of course 10 metres also.

Basically raising the antenna higher in the air will result in a lower angle of radiation making it more useful for DX and dropping the antenna to 20ft off the ground will result in high angle radiation and shorter distances covered.

The antenna was modelled on the EZ-NEC program and the plot below shows the radiation pattern from the loop antenna. The mathematical projection bears out the theory of operation of this antenna and shows near vertical radiation **Fig. 1**

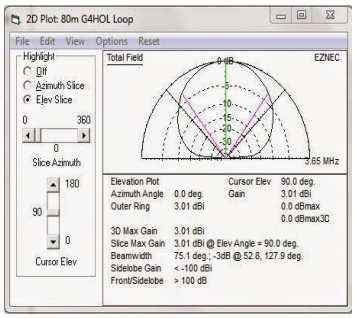


Fig. 1 Plot of radiation from 40 metre loop at 20ft AGL

A plot was carried out on a 40 metre version of the antenna which shows the minimum SWR at useful frequencies throughout the amateur HF Spectrum. **Fig. 2**

During daylight hours, one can take advantage of NVIS operation on Frequencies around 7Mhz and 5MHz but as the day progresses and D -Layer absorption becomes less, then the 80 metre band will become more effective as the evening progresses towards sunset and darkness.

As a result the 80 metre band will yield excellent results around Ireland and into the UK.

Unfortunately, this antenna does cover a wide expanse of real estate and the 40 metre antenna is generally the best size to fit in most back gardens although nowadays they are getting smaller in the newer housing estates.

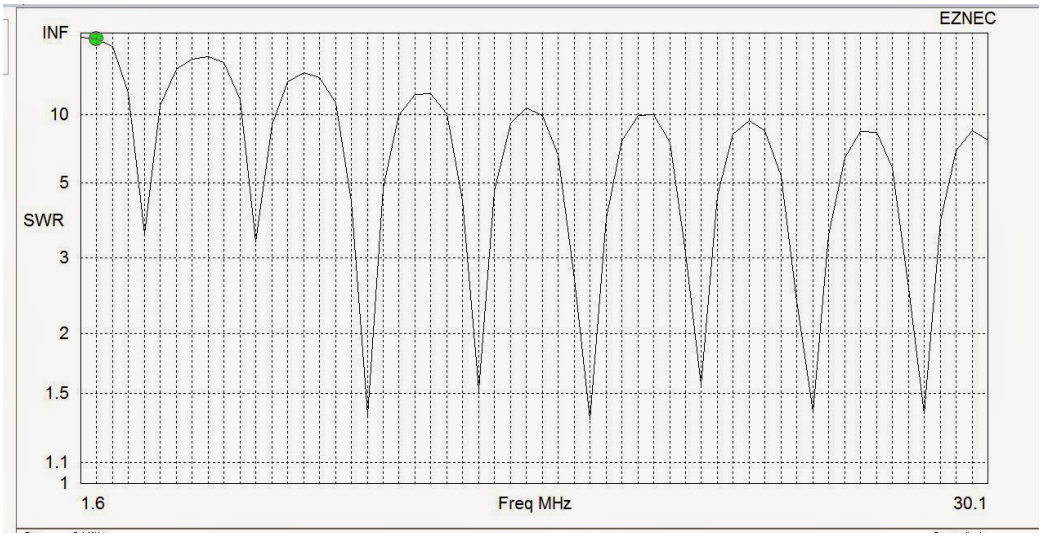


Fig. 2 SWR Plot of 40 metre Loop from 1.6 - 30 MHz

Loop Sizes

160 - 10 metres - 566ft (172.5m)circumference

80 - 10 metres - 283ft (86.25m)circumference

40–10 metres- 141ft 6ins (43.13m) circumference

For 60 metres try 188ft (57m) circumference.

Construction is simple, thread 3 dog bone insulators on the chosen length of wire. At the 4th corner, tie off the end of the loop around each side of the insulator. Solder the feeder to the wire on each side of the insulator.

The wire gauge is not critical but do not make it too light weight.

Remember, only 300 or 450 ohm open wire feeder and **NOT** Coax feeder. Any length of feeder will suffice as it is not going to radiate.

The loop should be kept as "open" as possible so a Square shape is ideal but rectangular or Trapezoid will suffice A triangle, circle or irregular polygon will also work provided they are not squashed. There will be no problem if the shape is not truly horizontal as it will still work but with a skewed radiation pattern.

The antenna must be fed at one of the corners and not from any other point along the wire.

The height of the antenna above ground is not critical and good results will be obtained at 20ft above ground for NVIS. For Longer distances the loop should be at least a half-wave or more above ground.

Do not use a Balun in line, tune directly with an ATU such as an EZEE Match or Balanced line tuner.

In Practice

1) The antenna has the highest angle of radiation at the lowest frequency.
2) Low angle of radiation at the Highest frequency - good for DX operation.
3) No Narrow Band compromises or trapped systems involved.
4) The Loop offers gain over some commercially marketed systems.

283ft 80m Loop Version

One Wavelength on 80 metres

Two Wavelengths on 40 metres

Three Wavelengths on 30 metres

Four Wavelengths on 20 metres

Five Wavelengths on 17 metres

Six Wavelengths on 15metres

Eight Wavelengths on 10 metres

As can be seen from the diagrams, High Angle radiation will operate stations within the dead zone as shown in the Low angle radiation diagram on the previous page

A forty metre loop would be ideal for the IRTS 40 metre counties contest and would probably pull in stations that dipoles wouldn't hear. The 80 metre counties contest may be workable as the time of day does not generally suit NVIS operation on 80 metres due to D-Layer absorption - worth a try all the same if you have the space to hoist it up in the air

Much like the cobweb antenna, the Loop will radiate signals broadside as in Fig. 3 when hoisted at heights greater than a quarter of a wavelength.

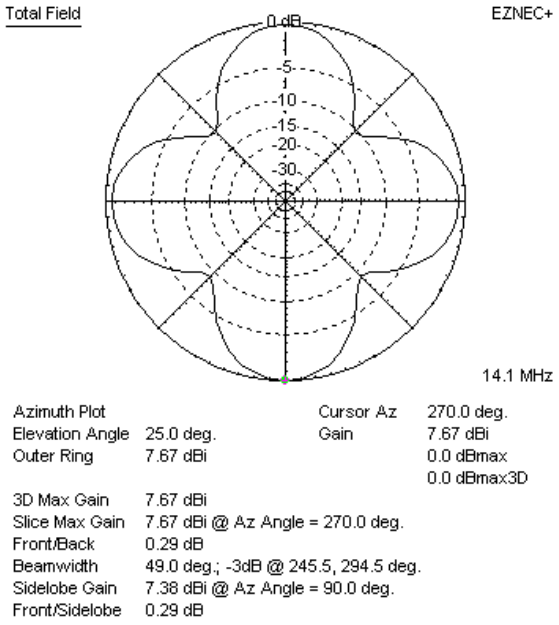


Fig 3. Radiation pattern of a the loop antenna at > quarter wave above ground views from above

Reproduced from the 2019 Edition of the Galway Radio Club Journal

4 Summits on 4 Metres - ELARC

Members of The East Leinster Amateur Radio Club are routinely operating outdoors, from impromptu field stations, static mobile, portable or on POTA and SOTA activations. These are typically on 2m, 4m and HF. Whenever possible The Club like to test the coverage range of their 4m rigs and regularly have impromptu 4m nets and QSO's from random locations in the Leinster region. During one of these events, the idea of activating 4 Summits on 4 meters came about.

SOTA Reference	Summit Name	Locator	Name	Callsign Used
EI/IE-018	Two Rock Mountain	IO63vf	Michael	EI6IRB
EI/IE-021	Clermont Carn	IO64ub	Johnnie EI6IPB Tom EI5IEB	EI0EL Net Control
EI/IE-022	Great Sugar Loaf	IO63wd	Frank	EI8HIB
EI/IE-003	Tonelagee	IO63tb	Dom	EI5IAB

The aim was to ensure that each summit would have line of sight with all other summits. Four summits were chosen, primarily as they met the line-of-sight criteria and as a bonus members had not activated them before either.

With the summits decided upon the next step was to pick a date. Saturday 30 July was chosen and postings were made on a number of social media platforms to spread the word that Club members will be attempting to activate 4 Summits on 4 Meters.

In an effort to promote the use of 4 meters, The Club were encouraging those in the amateur radio community as well as SWL's to listen out for their CQ calls on 70.400Mhz FM

A lot of amateurs operating on 4m do so with ex-PMR (Private Mobile Radio) rigs that have been modified and reprogrammed to operate within the amateur radio allocation on the 4 meter / 70Mhz band.

Many may also have off-the-shelf amateur radio rigs that have 4m built-in such as the Kenwood TS 890, the ICOM IC-7300, and Yaesu FT-847. This event would be a great opportunity to from them to dust them off, get an antenna up and join in the activity on 4m.

Based on The Club members experiences in broadcasting the IRTS 4M News while operating portable, long-distance contacts can be made. For example, Dublin/Wicklow mountains into both North Anglesey in Wales (~160 km) and Sligo (~195km) were recently made.

The Club were especially interested in making QSO's with anyone who may be operating portable or taking part in a SOTA or POTA activation on 4m on the day to listen out and to call in. Club members were using their own callsigns as well as Net Control using The Club's callsign, EI0EL.

The plan was to start a Summit to Summit to anywhere net at 12:00PM Local Time / 11:00 UTC on 70.400Mhz FM. After the net summit operators would then QSY to an alternate 4m frequency to complete the summit activation and to make some more QSO's.

Saturday came around and Club members made their way to their allocated summits that morning. For some, there was a mandatory stop along the way for coffee and breakfast rolls. Ad-hoc check-ins were maintained between members on route via EI2CCR and EI2KPR.

Michael (EI6IRB) set-up a portable station on SOTA Summit Ref: EI/IE-018 Two Rock Mountain, Co. Dublin. The station consisted of a Clansman 352 (20W) with a ground spike antenna. Power supplied by a standard 4.2Ah 24v Clansman battery. WX was heavy cloud cover and mist with occasional breaks becoming more prevalent as the day progressed, rain and drizzle, strong wind from NW backing to SW, visibility from 400 metres in mist to the horizon in clear spells.

Two Rock mountain - EI6IRB

Tom (EI5IEB) and Johnnie (EI6IPB) set-up a portable station on SOTA Summit EI/IE-021 Clermont Carn. The station consisted of a SOTA Beams 6m telescopic mast, Hawkins Viper 5/8 4m rollup flowerpot antenna, Homebrew 15Ah LiFePO4 battery pack and an Anytone AT-588 (4m / 70Mhz))radio. WX was not great. Rain, low cloud cover with visibility of 20 to 30 meters on the summit.

Frank (EI8HIB) set-up a portable station on SOTA Summit Ref: EI/IE-022 Great Sugarloaf, Wicklow. The Station consisted of Cleartone (4m) radio with a Hawkins Viper VHF78 4m antenna, supported by a telescopic mast at 5m above ground. Power supplied by a homebrew 15Ah LiFePO battery. WX:10C, 90% cloud cover, No Rain. Light Winds from SW, visibility of about 30km.

Dom (EI5IAB) set-up a portable station on SOTA Summit Ref: EI/IE-003 Tonelagee, Wicklow. The station

Clermont - EI0EL

consisted of Anytone AT 588(4m) radio with a Hawkins Viper VHF78 4m antenna (end fed 5/8th + 1/4 wave (7/8th wave) Dipole, supported on a SOTABeams tactical mini mast @5m above ground. Portable power supplied by a large homebrew LiFePO battery (15ah). WX on the day was mild, approximately 10C, with the mountain top enveloped in a thick mist. Very damp, with visibility of about 5m.

After setting up the Net Control station a radio check was carried out. Frank, Dom and Michael all came back with signal reports of 59 to Net Control. Tom and Johnnie had 15 minutes to spare before the start of the net so used this time to their advantage and fired up the Trangia stove and make a coffee. This nicely complemented the breakfast rolls picked up en route.

Station used by EI8HIB on Great Sugarloaf

Members of East Leinster Radio Club - EI0EL

Tonlagee - EI5IAB

Great Sugarloaf - EI0EL

The net started at 12 pm and continued until 1 pm local time. Net Control, EI0EL, announced the start of the net by verifying that the frequency was not in use and then preceding to call CQ, announcing the net and inviting stations to check-in. Call signs were collected, and Net Control read back a listing of all callsigns heard and then invited callsigns not listed to call-in.

Net Control started at the top of the list and called each station in turn. These stations then exchanged name, location, signal reports and a brief QSO with net control. Once the one through of the list was complete a net control invited any other stations who wish to join to call in.

Unfortunately, Net Control was unable to copy Dave in Dundrum, however, other stations in the net were enabling his messages to be relayed to net control.

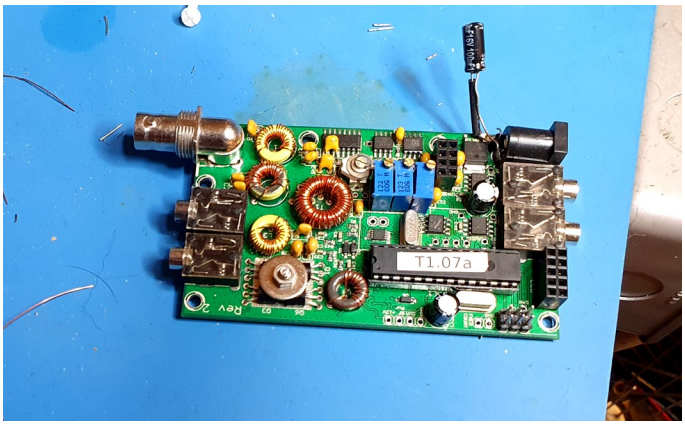
Tom EI5IEB - East Leinster Radio Club - EI0EL

Building The QCX Mini - A Small Single Band CW Transceiver

Hans Summers G0UPL created the original QCX for YOTA in August 2017. It didn't include a case and in 2020 it was replaced by the QCX Plus then the QCX Mini. I bought the 40m kit version of the QCX Mini, a feature-packed, high performance, single band 5W CW transceiver kit with WSPR beacon and built-in alignment and test equipment. It wasn't a difficult kit to build and most hams will have it built and tested in a couple of days.

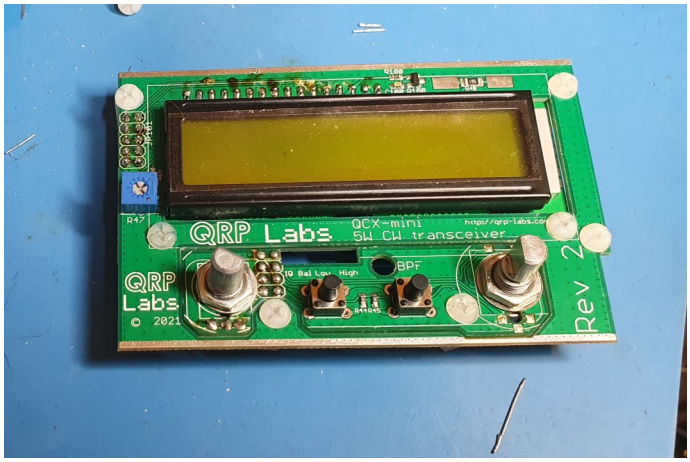
The most difficult part was correctly winding and soldering the band pass filter transformer. It had one winding of 38 turns and three windings of five turns. It took me a few goes in getting it right but once done correctly and soldered in place it worked perfectly. The rest of the build was straight forward and the step-by-step instructions were excellent.

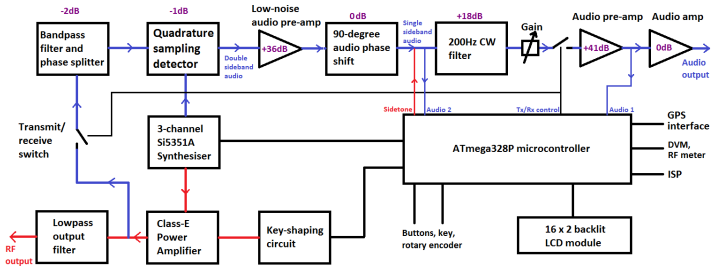
Most of the components were surface mount and already in place so I only had to solder in the thru-hole components and connectors. I have to say though, it was very



therapeutic assembling the kit and I thoroughly enjoyed the process.

Once I had it built, I powered it on and it worked first time. This is when the QCX came into its own. I have built





in test equipment and doesn't need any test equipment to build. The QCX needed to be aligned and first on the list was the band pass filter, I entered the alignment menu and selected BPF adjust and turned the variable capacitor until I had achieved the correct setting. There was a few more alignment settings but only took a couple of minutes.

After the alignment settings I connected a dummy load and done the power output test. Unfortunately, my output power was only one watt and a lot less than the advertised five watts, but it wasn't a problem. I changed the spacing of the turns on the BPF and I got my five watts. In some cases, you will have to remove some turns on the transformer, but I didn't have to.

Now I went for the money shot, how did it operate on air? There were loads of stations on air at the time of testing but that wasn't a problem as the QCX has a 200hz filter with no ringing. So, I called CQ on 7.030, the 40m QRP calling frequency, and worked Denmark and the UK. The full QSK mode is impressive and operating the radio is a pleasure. I am very happy, so much so, I ordered the 20m and 80m QCX+ kits and I look forward to building them.

I plan to operate portable with my 2E0ERO magnetic loop, so have started to collect the parts needed to go portable. I bought a cheap alarm panel lead acid gel battery and made up the required leads and bits and pieces. This QRP radio even has CAT control, and I bought the required lead from Amazon for only £17 delivered. The QCX uses the Kenwood TS480 command set so most modern logging programs can use it. I use CQRLOG and it works perfectly.

So, let's look at the features:

- Easy to build, two-board design, board with main circuit and connectors, display panel board with LCD; all-controls board-mounted on a press-out sub-board. No wiring, all controls and connectors are board-mounted
- Professional quality double-sided, through-hole plated, silk-screen printed PCBs
- Choice of single band, 160, 80, 60, 40, 30, 20 or 17m
- Approximately 3-5W CW output (depending on supply voltage)
- 7-14V recommended supply voltage
- Class E power amplifier, transistors run cool…
- 7-element Low Pass Filter ensures regulatory compliance
- CW envelope shaping to remove key clicks
- High performance receiver with at least 50dB of unwanted sideband cancellation
- 200Hz CW filter with no ringing
- Si5351A Synthesized VFO with rotary encoder tuning
- 16 x 2 yellow/green LCD screen
- Iambic keyer or straight key option included in the firmware
- Simple Digital Signal Processing assisted CW decoder, displayed real-time on-screen
- On-screen S-meter
- On-screen real time clock (not battery backed up)
- Full or semi QSK operation using fast solid-state transmit/receive switching
- Frequency presets, VFO A/B Split operation, RIT, configurable CW Offset
- Configurable sidetone frequency and volume
- Connectors: 2.1mm power barrel connector, 3.5mm keyer jack, 3.5mm stereo earphone jack, 3.5mm stereo jack for PTT, 3.5mm stereo jack for CAT control, BNC RF output
- Built-in test signal generator and alignment tools to complete simple set-up adjustments
- Built-in test equipment: voltmeter, RF power meter, frequency counter, signal generator
- Beacon mode, supporting automatic CW, FSKCW or WSPR operation
- GPS interface for reference frequency calibration and time-keeping (for WSPR beacon)
- CAT control interface
- Optional 50W PA kit
- Optional aluminium extruded cut/drilled/laser-etched black anodized enclosure.

The QCX mini is available from qrp-labs.com for $57.79 and I highly recommend it. Look out next month for my report on operating portable with the QCX and a magnetic loop.

Micheal Na bPoib - MI0HOZ

mick.conaghan@gmail.com

Greetings from Bill Meara - N2CQR (SolderSmoke)

Homebrewing is alive and well all around the world. What was once a lonely, solitary, and often frustrating activity (many of us have indeed contemplated stamp collecting as an alternative) has -- because of the internet -- become a hobby of global collaboration. I have been involved in the SolderSmoke podcast and blog since about 2006, and we often speak of the International Brotherhood of Electronic Wizards. The internet allows us to reach out and seek help and advice from Wizards around the world.

A good example of this happened to me recently. My good friend Ashhar Farhan, VU2ESE, recently developed a design for a new analog SSB transceiver. At the heart of this new rig was a Permeability Tuned Oscillator. With this device, the need for a variable capacitor could be eliminated -- that capacitor could be replaced by an inductor with a brass screw going into the core. This "PTO" is built around a coil form. It is a 3D printed part. Farhan sent the print file to my friend Dean KK4DAS who promptly printed one for me. So now I have a PTO with Farhan's coil form sitting on my workbench in Virginia. Soon it will be in a rig, and will be participating in contacts with stations around the world.

I think Ireland has a special place in the homebrew world, in part because of the tradition of experimentation that exists on the emerald isle. I remember my good friend Mike EI0CL, telling me how licenses in Ireland are licenses for radio experimentation. That is a truly wonderful way to describe the privileges granted to radio amateurs.

So, hats off to the homebrewers! Let the solder melters of the world unite via the internet so that they may meet up on the airwaves using rigs that they have built with their own hands!

73 from Northern Virginia, USA

Bill N2CQR

http://soldersmoke.blogspot.com

(52) SolderSmoke - YouTube

A Beginners Guide to Antenna Modelling Using MMNA-GAL

MMNA-Gal is an antenna-analysing tool based on the moment method, which was introduced in MININEC. The program provides ability for changing the language of signs and messages of the program. It is a free antenna modelling software which is more than adequate for most purposes, however, a Pro Version is available for €139.00 if you feel you have to go down that route.

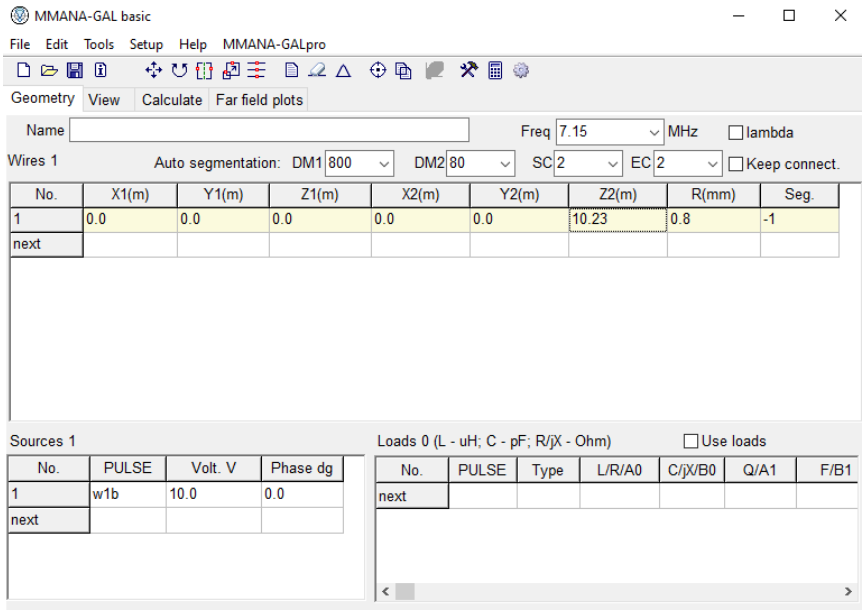


Fig. 1 The Geometry Screen where measurements in metres are entered

On start-up of the MMNA-Gal program, it will be in German, and it is necessary to press set-up and change the language. The Program will default to the View Screen so click on the Geometry tab to get started

Note: there are three tabs along the top line:

Geometry – the location where you type in the dimensions of the antenna, in metres.

View – shows the X,Y, and Z plot of the antenna. You can view the antenna in 3D

Calculate – Shows the calculation that we have done.

F F Plot – Views the far field plot of the antenna from above and looking in from the side

We start this article with a simple 1/4λ vertical antenna for 40 metres. **See Fig. 1** for parameter entry

In the frequency box type in 7.15 as this sits nicely in the Phone section.

Go to the **Geometry** tab and type 10.23 in the Z2(m) this indicates a value of 10.23 metres the length of the vertical.

Type **View** and you will see the vertical antenna represented in a 3D view **Fig.2.** Right click on the mouse and a box will appear, select " **Move Add Source to**" and select "**begin of wire**" you will note a small red circle at the base of the antenna.

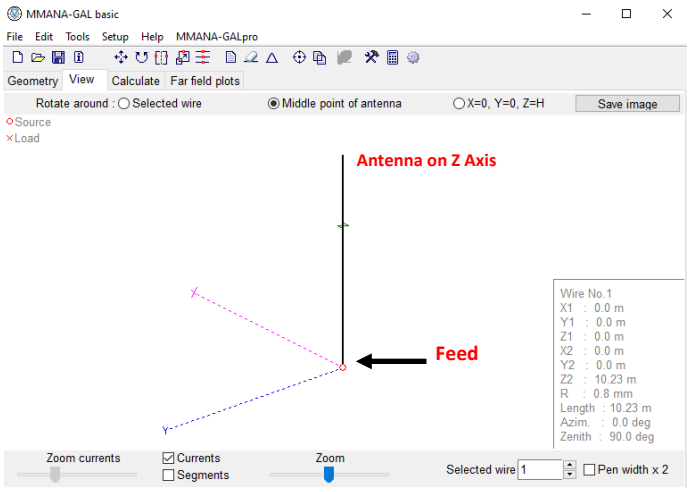


Fig. 2 The view screen showing your antenna and feed point

Go back to the Geometry tab and you will note that "w1b" has appeared in the box just below pulse. It is possible to type "w1b" manually if you wish.

Click on **Calculate**: **Fig.3**

Click on Material and select **Cu Wire**.

There is a box dedicated to Ground conditions – Select **Real** and then click on "**Ground Set up**" where it is possible to set up the parameters of ground conditions and conductivity. We are going to add 4 radials so select the box marked "**On-Radial Boundary**" then add 4 in the box marked "number". You can leave the radius of wire as it is.

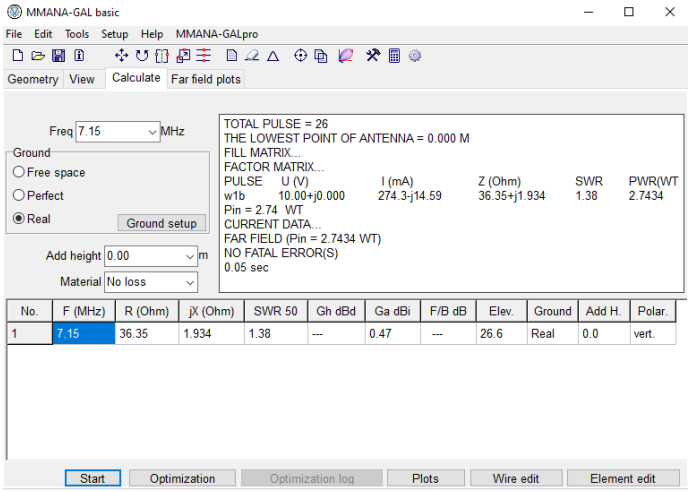


Fig. 3 The Calculate Screen after Clicking on Start

Click on Calculate box and click on "**Start**" after a quick calculation process figures will appear in the boxes.

Our vertical antenna appears to be the right length with an SWR of 1.39.

Look along the bottom line of the screen and click on **"Plots"** A box will appear so click on **SWR Fig.4** followed by **"all points".**

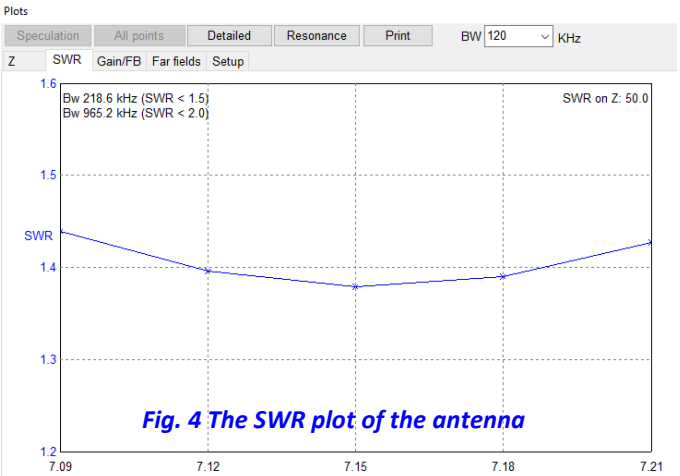


Fig. 4 The SWR plot of the antenna

This will reveal a plot of the SWR curve of the antenna. In our example we have a shallow curve with an SWR of 1.4 at 7.13 dipping to 1.38 at 7.18 MHz and rising to 1.39 at 7.95 MHz. Not a bad starting point and it would be possible to trim add very small amount to shift the curve towards a slightly lower frequency. 10.23 metres would provide the perfect match at 7.15 MHz in our set up.

At this point we have successfully modelled a vertical antenna centred on 7.15 MHz with four radials. This could be re-modelled and substitute 16 radials in the Ground set up and then press "**Start**" to see if there have been any changes

The last Tab, the "**Far Field Plots**" shows the radiation pattern of the antenna plotted from above on the left hand side, and from the side looking at the plot on the right **Fig.5.**

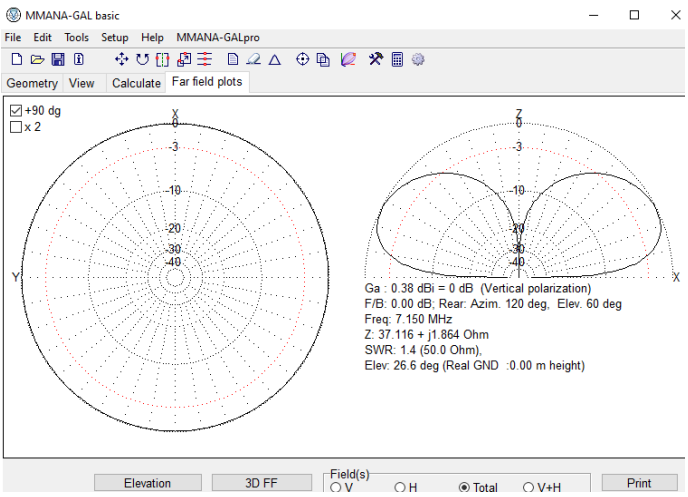


Fig. 5 Far Field Plots showing radiation patterns

Naturally, our vertical antenna is an omni-directional antenna giving a major radiation lobe at 25 degrees to ground an all directions. Note that there is no radiation in a vertical plane so this antenna will radiate well towards the horizon.

Local terrain may affect the radiation pattern. A vertical is not suitable for NVIS which requires the signal to be radiated almost vertically upwards.

A simple experiment to show how the wave will be propagated from the ionosphere is to squirt a jet of water from a hose at a low ceiling in a vertical direction. The jet of water will bounce back down on top of you. As you decrease the angle the jet of water will return a further distance away. We want to take advantage of the low angle of radiation to transmit further distances.

You will note the "**3D FF**" tab along the bottom of the screen. Click this to get the pictorial heat map of the radiation as in **Fig. 6**. Press **OK** on the bottom left of the screen.

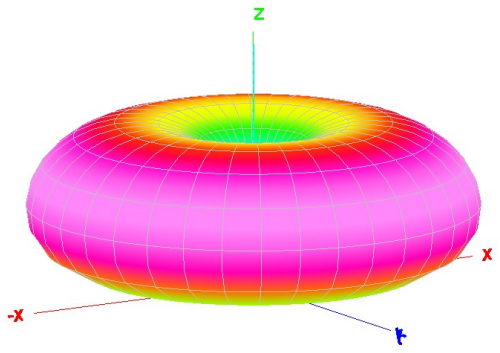


Fig. 6 Diagram of maximum radiation from the antenna

At this point the process was not too painful and we have our 1/4λ vertical for 40 metres. Not content with that, we decide to model an antenna for 20 metres.

Instead of entering all the parameters again, we can scale the antenna we have already built to 20 metres.

We go back to the calculate screen and press the scaling Icon found on the toolbar as arrowed in **Fig 7**.

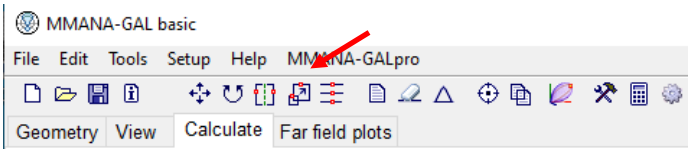


Fig. 7 The Scaling Button

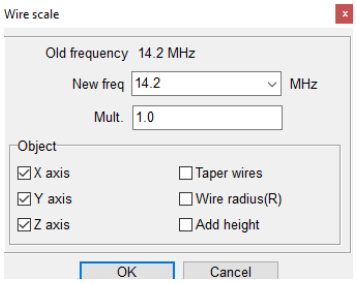


Fig. 9 the Wire Scale Tool

Enter the new frequency and the program will determine the new parameters once you press **OK**.

Go back to the Calculate screen and press "**Start**" and your new parameters will be calculated as in **Fig.9**

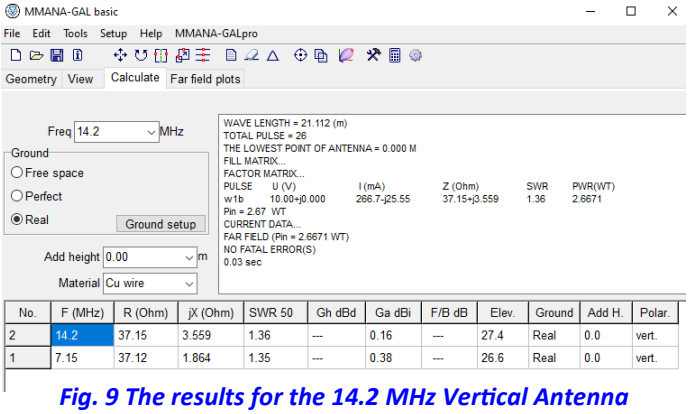


Fig. 9 The results for the 14.2 MHz Vertical Antenna

Go back to the Geometry Tab and your new dimensions of 5.15102 metres will appear in the "Z2" Box As shown in **Fig 10**

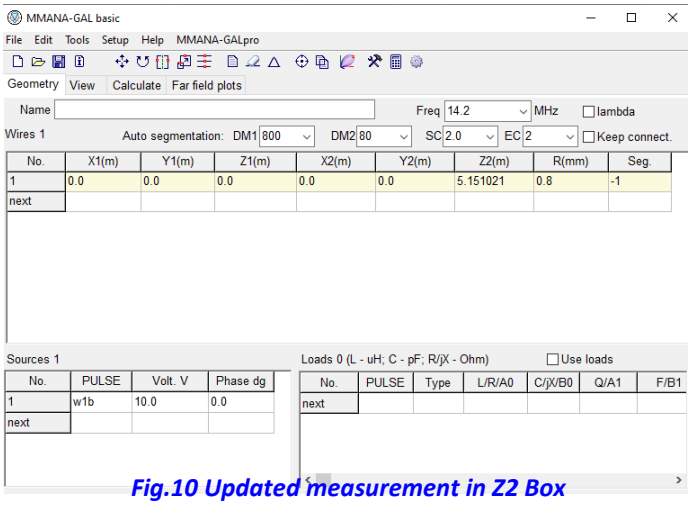


Fig.10 Updated measurement in Z2 Box

Over the next few issues we will graduate to Dipoles and various loops. **Note** for all these examples ensure that R is set to **50 Ω** in the Standard Z(SWR=1) box found in **Setup.**

Have You Considered Portable Operation?

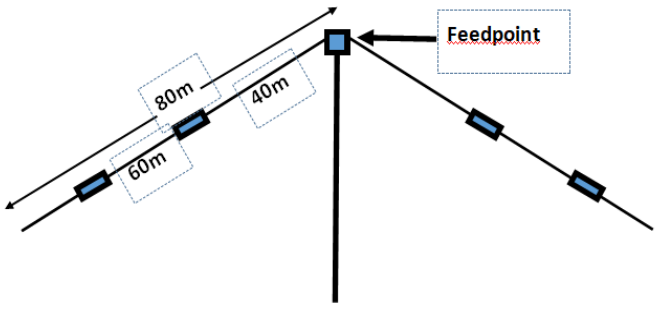
I live in Salthill, just west of Galway City. I am 12 metres above sea level, surrounded by hills, with a bit of a take-off due south across Galway Bay, and I have a postage stamp of a back garden. HF was never a great option for me although I used to run a top loaded Inverted-L tuned at the base and used a HF-360 antenna for 14 – 30 MHz. Living close to the city, and a thriving tourist spot like Salthill, brings its own problems with electrical noise. Alas, the trees at the end of the garden were becoming a little unstable and the threat of them coming down during one of the frequent Storms hitting the west saw the end of HF operation when they were removed. From a VHF/UHF perspective, 25 miles radius was about the best I could achieve with occasional VHF opening permitting further distances. We are well covered with digital Repeaters so there is plenty of time to give these an airing.

Getting Started

The majority of radio equipment can be powered from a car battery supply. With this in mind it is not a problem to set up a HF or VHF station in the back of the car and pull up to a nice clear spot and hoist up an antenna.

The West-Galway countryside and the Burren, tend to be devoid of tress so a 10 metre fibreglass pole is essential. With wide open areas, It is possible to cut some really good antennas for 80, 40 and 60 metres out in the field. My personal favourite is the Inverted V where I have cut a length for 40 metres, placed a 4 inch insulator and with a jumper across it, added the additional length for 60 metres, added the insulator, with jumper across it, and an additional length for 80 metres. The jumper is a small length of wire with a crocodile clip on each end. The apex is at 28ft

While I suspect SOTABEAMS make a similar antenna out of lighter wire, I spent an afternoon making this antenna with a perfect match on each band reducing the need for a tuner . As the evening progressed I was able to operate on 40, 60 and finally 80 metres with superb results. There was very little noise in the location as it was far away from populated areas.



Inverted - Vee Antenna for 40, 60, and 80 metres

Kite Antennas

The Kite antenna is a great choice of antenna and combined with the ever popular End Fed Half Wave Antenna, this is an ideal portable system. I use a Sled 24 Kite to pull up the antenna available from https://www.premierkites.com/collections/power-sled-24

The Sled 24 is a large kite with a drogue chute to keep it steered into the wind and maintain stability. The dimensions are reasonably large and if the wind picks up it can be quite difficult to reel in. There is a larger version, the Sled 36, which is just about manageable by one person.

The Kite is flown using its own cord and the antenna is attached to the kite and allowed to hang as near vertically as possible. **Fig. 1**. I generally use a dog tether screwed into the ground with to tie off the kite. Between the end of the rope and the tether, I add a bungee cord to give a bit of a spring to the cord. If the wind gusts suddenly the bungee will absorb the shock and then release the momentum back to the cord this will prevent the kite from collapsing.

Fig.1 Kite Antenna

A very important addition is a bleed resistor box at the bottom of the wire as illustrated below in **Fig. 2**.

Fig. 2 Bleed resistor box to remove Static charges

The bleed resistor removes any high voltage static charges that may build up on the wire and these are taken to earth via the yellow socket. The blue socket is where the wire antenna is connected. This assembly will save the radio from receiving a nasty charge and also will prevent a high voltage shock from the static electricity built up on the wire. Do not attempt to fly the kite antenna without this as it is a shame to blow up the radio on the first trip out. I have an earth rod sunk into the ground attached to the yellow socket/ The large ring is tied off to the dog tether

and the coax cable is plugged in on the right hand side of the box. If using a 49:1 UNUN then take a wire from the centre pin of the SO259 to the UNUN. It is better to place the UNUN after the bleed resistor box to prevent it from getting fried. If you are not using the UNUN than use an ATU. **Fig. 3**.

With a good breeze it is possible to haul up a 1/4 λ vertical wire on 160m which will double as an end fed halfwave on 80 metres. I have had excellent results from

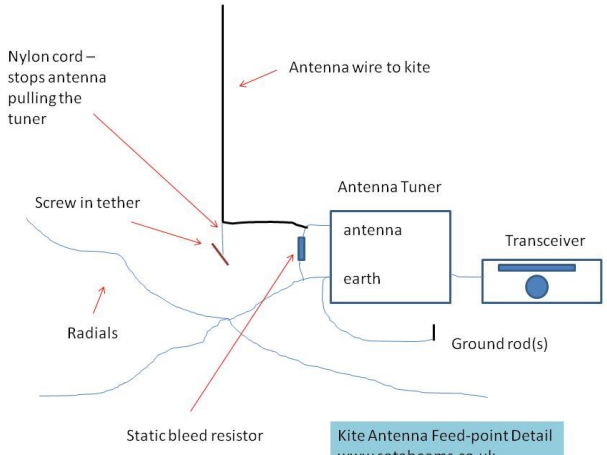


Fig.3 *Note the kite cord is not shown in this diagram*

both over bog and also from the sea shore where, even better results have been obtained.

40m Vertical Antenna from a 12m Spider Pole

Spider Poles, available from our local Supplier, **WESCOM**, can be useful supports to hang an Inverted Vee antenna and may be also use to support a vertical element such as a 1/4 λ for 40 metres **Fig. 4**. With

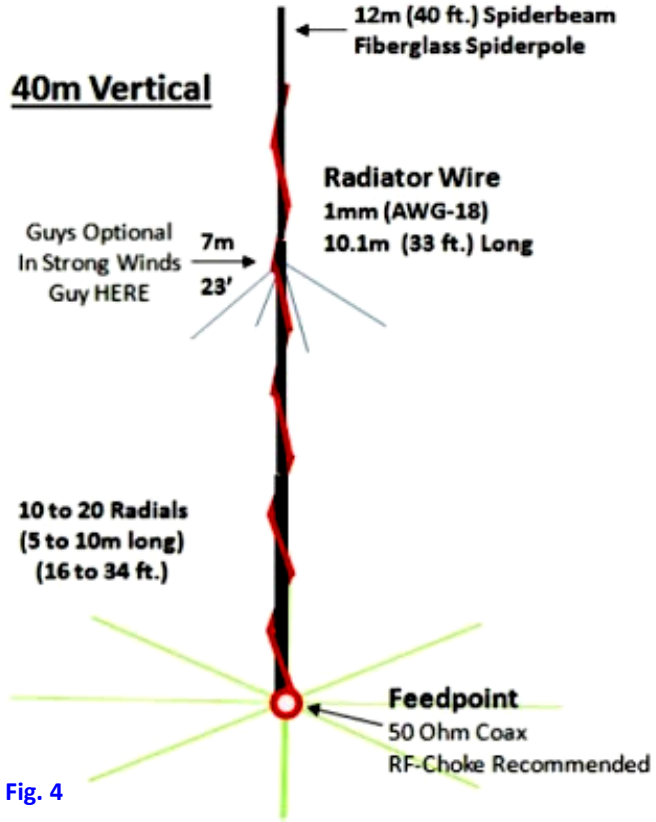
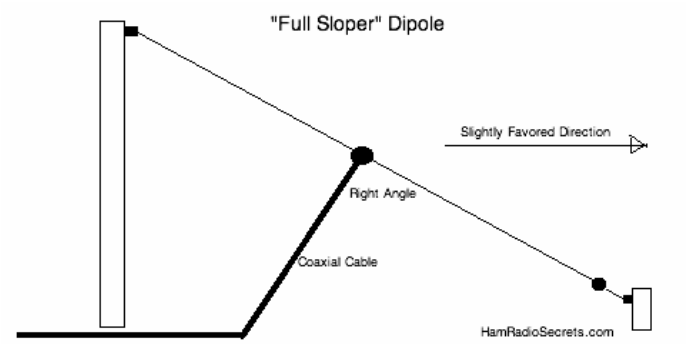


Fig. 4

propagation as it is on 40 metres a good full day of activity is possible. Of course the antenna will also work well on lower bands with an appropriate matching unit at the base. Plenty of room for experimentation in this area.



Fi.4. A Sloping Dipole from a Spider-Pole

Undoubtedly a day spent operating a portable station will be rewarding.

It does not end there with Spider poles as they can support, not only Inverted Vee Antennas and vertical wires but also sloping EFHW antennas or dipoles. **Fig 4.**

The Wind Camp Antenna

This Wind Camp Antenna is a small and neatly packaged Dipole antenna with a 1:1 BALUN at its centre. **Fig. 5**. The

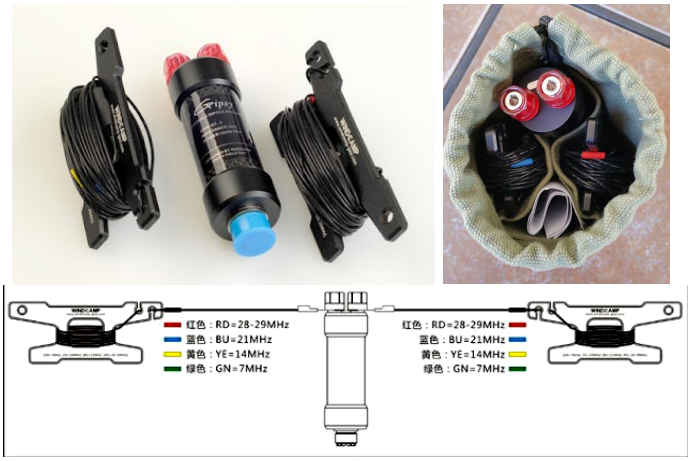


Fig. 5 The Wind Camp Antenna

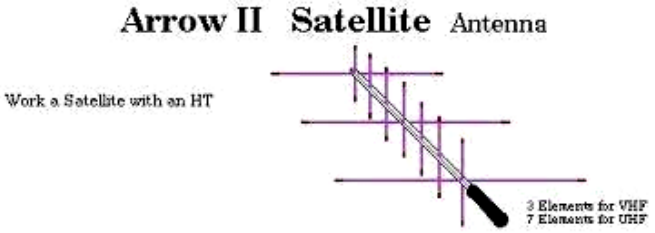
version I got covered 40 - 6 metres although more recently 60 metres has been added and the cost increased slightly!

The wire element is marked with coloured plastic markers at intervals showing how far to unravel to operate on a specific band. It will, naturally, give excellent results as it becomes a full length dipole for the specific band to which you have unravelled it.

Antennas for VHF

In Last months issue, we covered the building of a Slim Jim Antenna made from 450 Ω ribbon feeder. These can be taped to the Spider Pole directly or can be placed inside 22mm PCV pipe to give mor rigidity. They are very effective to operation from high sites. They are easy to deploy and, of course, very light weight. A Slim Jim may be built for any band from 27 MHz to 70cms

A review has also been done on the AIR Antennas for 2 metres and 70cms and this can also be fixed to a Spider Pole and this is a very effective and lightweight antenna for portable work.



Thew ARROW Antenna, **Fig.6** is a satellite antenna, with a bit of gain, that can be mounted on a tripod or pole for some VHF UHF operation from a high spot.

Operating From Off-Grid Locations

To this point we have considered operation from areas that we can literally drive into and plonk the gear onto a picnic table but, of course, the best spots to operate from are off the beaten track. At this point it becomes more challenging and more interesting.

Considerations

1) Lightweight Low-Power Radio Equipment.

Apart from the obvious choices - the Yaesu 817/818 and the more recent ICOM IC-705, there are numerous Chinese Portable radios such as the Xeigo. SDR systems have certainly opened the door to many new lightweight radios. It should not be necessary to run anything more that 10 Watts from an off Grid site.

2) Supports

We have covered many options earlier based around the collapsible Spider Poles which may be purchased in sizes as small as 6 metres. Consider taping two walking poles together as another alternative. It saves humping the Spider Pole around! The Sled Kite is still an option as there is really nothing to this kite weight-wise.

3) Antennas

Lightweight wire antennas will be easy enough to carry but will not be deployed that hight off the ground although a kite antenna may be the answer here. A few alternatives spring to mind such as the Buddipole/Buddistick system the MP-1 Super Antenna, The Chameleon kit, or perhaps something like the Alex Loop Antenna. These a can also be used as a Portable system at ground level but mentioned in this area as they are good lightweight alternatives.

4) Tuners

These can be left aside if one has a resonant antenna system prebuilt for the occasion. It is possible to buy some form of battery operated Auto Tuner which maybe quite expensive. The EFHW requires just a small UNUN in a box and, if previously tuned at ground level, it should not need and ATU. A simple tuner for QRP operation is probably all that is required.

5) Antenna Analyser

An Antenna Analyser/Nano VNA is handy to have if out portable as it will at least assist with any issues that may arise with antennas systems.

6) Power Supply.

Unless you have leg muscles in your arms, a generator is out of the question! So consider something such as a lead Acid battery—anything more than 12 AH is heavy. Of course, for a few quid more, on could purchase LiFePO4 - Lithium Iron Phosphate batteries which, for their size, can deliver considerably more power. They hold their voltage until the bitter end and are much smaller. Small solar Panels could keep the battery topped up for a longer period.

7) Carrying the Kit

Undoubtedly the rucksack is the only way to carry equipment and this would need to be waterproof. I was brought up, at the young age of 18 to carry 50lbs of kit in a rucksack or else do lots of push-ups. The former became a more attractive option. The is little need to do that now. The bottom line is to try not to bring the kitchen Sink and organise as light a set of equipment as possible.

8) Basic Tools

The Swiss Army Knife is a must and then basic tools such as wire cutter, pliers, an adjustable spanner, screwdriver and a small test meter.

9) Sustenance and Clothing

Do not forget and adequate supply of food and drink. Good warm and waterproof clothing is a must and also a good pair of hiking boots.

Portable Antennas

In item (3) a few antennas were mentioned and the Buddipole Deluxe kit is consists of all you need to set up a

Fig. 6 The Buddipole Deluxe Kit

shortened, loaded dipole and even comes with a mast and tripod although it is safer to guy the system as it may fall over if it catches the wind. **Fig.6**.

The Buddipole Deluxe Kit will work on bands 40 - 10 metres, and comes with loading coils and Fixed plus

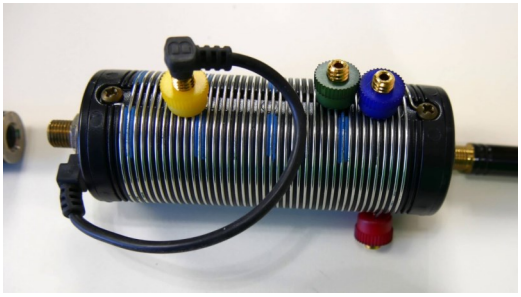


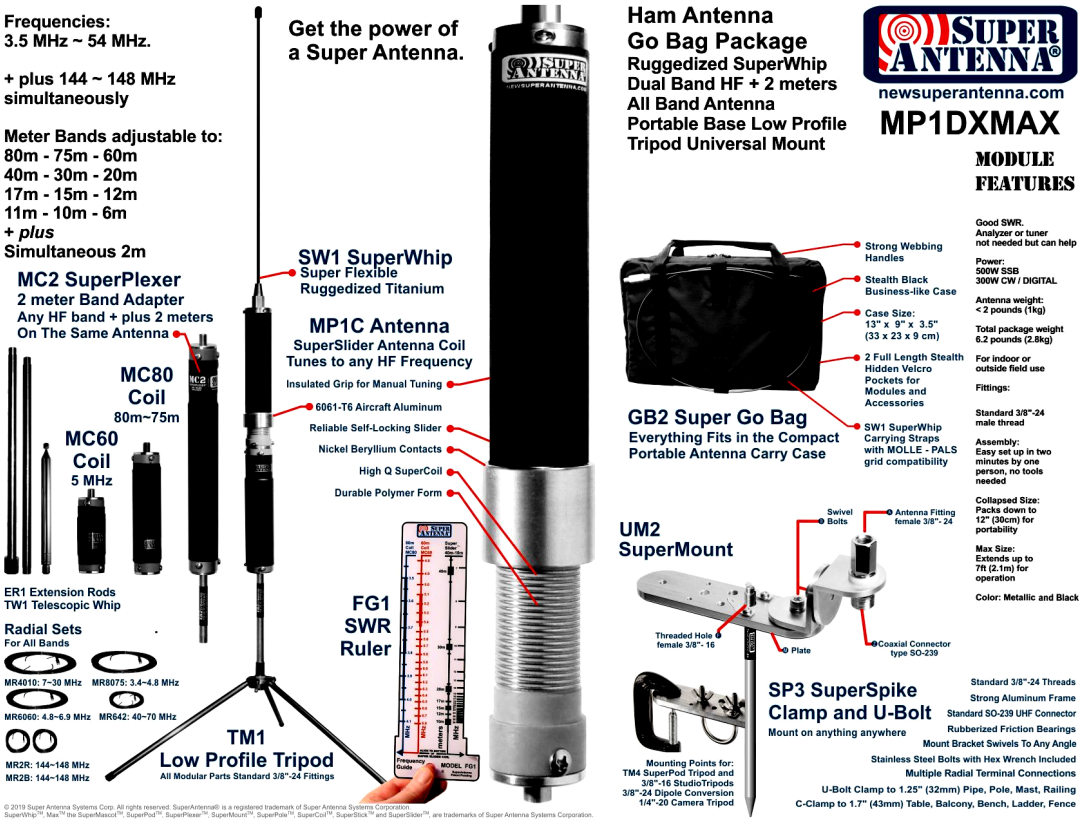
Fig. 7 The Buddipole coils showing the method of tuning

telescopic elements to make up the dipole. The coils are well made and have small clamps to tap specified areas on the coil depending on the band in use Fig. 7.

This system really does

Fig. 8 The fully assembled Buddipole on supplied Tripod and Mast

require an antenna analyser on site as the tuning will alter as the antenna is hoisted above ground. However, once tuned it should not require any major changes unless you move frequency or change bands. The fully assembled Buddipole is shown in **Fig. 8**.



The MP-1 Super Antenna

The MP-1 Super antenna is a Short centre loaded vertical antenna covering 40 - 10 metres and even works on 2 metres with the loading coil removed. All the parts are shown in the illustration to the right.

Using the supplied ruler, it is possible to pre-set the antenna close to the frequency and then fine tune the coil by moving the outer sleeve up or down to obtain the bast match. The Antenna does require radials attached to the base to improve its tuning and performance. The whole lot can be taken apart and stowed in a rucksack and takes up very little space

The ALEX Loop Antenna

The Alex Loop Hampack is a perfect QRP system and contains all the parts required to assemble an Alex Loop antenna complete with a length of coax for the radio. Unfortunately there is no tripod or mini-mast to mount it on. A Camera tripod is will easily act as a mount at the bottom of the short 3 section mounting pole assemble supplied. As illustrated, the whole kit fits into the carry bag. The assembly instructions are in a small plastic pouch sown onto a pocket for easy consultation. There is a newer version and the carry bag has additional pockets to contain an ICOM 705. Other updates include slight changes to the tuning unit but the overall construction has not altered.

The fully assembled loop is shown on the right hand diagram and it only takes minutes to assemble and it is quite robust. Obviously, a good steady Tripod would be required although the antenna is extremely lightweight.

The Tuning is simple. Set the Radio to the desired band and then sweep the band with the tuning knob, located at the bottom of the loop, from side to side. Peak it where the maximum noise occurs. This will be a clearly defined peak indicating close to the frequency.

Next, key the transmitter and tune either side of the setting and observe the SWR meter on the radio. There is a LED on the tuning box that will illuminate when the Loop is fully tuned. Note that the Loop is a very High Q antenna

Eleven Good Reasons To Go Portable

1) **Low Noise Levels** - As soon as you get away from the electrical noise soup that makes up the urban environment in which we reside, you start to notice some major benefits when it comes to Amateur Radio. Turning on the rig away from civilisation is a breath of fresh air; noise levels across the HF bands at S1 and have even S0 of noise

2) **Great Take off** - Portable operation from hilltops and open spaces offer unobstructed take-offs. On HF this means more of your power is being radiated effectively to the ionosphere as there's no building/ objects to obstruct the signal. Put a HF vertical on a mountain top and that low angle take-off really starts to do the business!

3) **Open Space for Antenna Experiments** - Outside spaces away from the restrictions of your home QTH mean you can experiment with larger antennas. Want to use a half wave dipole for 160m? Go do it! I did recently use one from a large field and did very well for a QRP station – a non-compromise antenna and good ground conductivity for the band helped me do better than the QRO station at home. Try launching a kite antenna.

4) **QRP Operation Becomes Easier** – With the usual restrictions of home lifted suddenly QRP operation becomes a lot easier. Admittedly QRP can also be a necessity if you need to walk some distance as you can't carry a generator to run that amp! Very soon the weight and bulk of power sources is realised.

5) **It's Healthy** - Amateur Radio outside offers fresh air and the chance of exercise. There's nothing like being out in the great outdoors. Activating SOTA summits inevitably means a certain level of physical exertion, but also gets you outside into some wild countryside.

6) **A Sense of Adventure** - Camping out in the wilds, watching the wildlife, being at one with nature and nothing like being out on a hill on a fine summer's day. It's a lad's thing.

7) **Great Advert for the Hobby** - Being outside and visible inevitably means that passers-by may ask questions about what you are doing. It is surprising how many hikers appear in the most obscure locations during a day.

8) **Awards** - SOTA, WAI, WAEIC etc. It is good to activate areas and locations to those hunting for awards and will give them an incentive for operators to work your station whilst out on the hills.

9) **It's Different** – For some the hobby may have reached an all-time low and sitting in the shack becomes unattractive. Try portable activity, make up some antennas on site and test their efficiency.

10) **Learn CW –** Indeed a bit of a chore to start from scratch and then to get past the 9-w.p.m. barrier, but it is onwards and upwards from there as practice makes perfect. From a QRP perspective, CW is probably the most effective mode.

11) **Improve the Operating Skills** - portable operation hones your operator skills. If you're a SOTA activator you'll learn how to deal with pile ups, work DX using QRP power, and you will have to be creative when you've forgotten an important item of equipment. A Swiss Army knife rapidly becomes your best friend!

To conclude

Portable operation is all about ingenuity and experimentation. Much of the initial operation is by trial and error. One can, indeed, use some of the commercial solutions which have been mentioned in previous pages of this article but there is plenty of scope to adapt ideas and modify them to suit the situation as presented. It is always better to make your own antennas rather than use the more expensive packs and kits.

The choice of transceiver is so varied that it would be impossible to dictate the best. I have used an FT 817 or FT818, and more recently opted for an ICOM IC-705. The both do the same job and run the same power from internal batteries. I also mention the FOXX-3 QRP transceiver kit and the Pixie kit both of which run 2 Watts maximum power on CW and are small enough to fit in the pocket.

An End Fed Half Wave antenna draped a few feet above the ground on walking poles will get enough of a signal out to make the valid contacts for SOTA. The EFHW is only made out of wire and a small BALUN at the end to connect to the transceiver. Nothing that can break here. If you have cut and tuned it to your desired band then it will work well for you and not add an appreciable weight to your load. The lightweight nature of the fibreglass pole will make it an attractive addition to the kit.

If using portable lead acid gel batteries. Give consideration as to how long you will be actually on air and what capacity you will require. There is little point in humping a huge battery just to do an hour's operating. What current does your equipment draw on receive?

Why not try building some of the projects from Sprat Magazine. They may be QRP, but provided the antenna is well matched and tuned to the band in question, even a couple of watts will be more than adequate.

Enjoy the countryside. When driving around at ground level you see very little. Climbing to high ground will give a totally different view of the same area along with a bit of peace and tranquillity.

Connemara

The Burren

The "Fredbox" - Roger Lapthorn G3XBM

This is the story of the **Fredbox,** a rig that first saw the light of day in 1974 in Cambridge.

How it all started and was later revived

For several years I'd worked local stations with a simple very low power 10mW AM transmitter. This was coupled with a super-regen receiver that first appeared in Practical Wireless in the late 1960s. Incidentally, this receiver design was republished in a later copy. The simple combination was used on the bench with just a toggle switch change-over. For some time, the antenna changeover consisted of unplugging the antenna from the receiver then plugging it into the TX and vice versa. The antenna at that time was a small dipole or indoor Yagi rotated by hand.

Making it into a transceiver

Combining these two circuits into one small handheld took only a couple of weeks. A small PCB was etched after a suitable box was found and the circuit worked first time. People working alongside me were so impressed by its small size that very soon 3 other copies were made. The first Fredbox to Fredbox QSO was over about 0.3kms. The odd shaped board was to allow a PP3 battery to be put inside the box as well as the microphone and TX-RX switch. A crystal earpiece was used on RX. Current drain was under 1mA on RX and only about 15mA on TX so the battery would run for days.

Local contacts were frequent around the Cambridge city area and the most regular QSOs were on 145MHz with a local disabled amateur, Fred, **G8BWI**. Because of this, the little box became known as the FREDBOX. I dedicate the circuit and the memories of those fun times to dear old Fred. How Fred could talk! Sometimes you'd start a QSO, then hand over to Fred, have your tea, and he'd still be talking away. Such good fondly remembered times indeed.

Working real handheld VHF DX

The most exciting results took place away from Cambridge in Yorkshire and in South Devon. In Yorkshire, the Fredbox was regularly used to make QSOs from my wife's parents' house in Barnsley up to Leeds about 35km to the north. In Devon, it was used to make several QSOs from Start Point to Portland Bill in Dorset at 90km to the east, all with just the rig handheld with a whip antenna. Then, on one occasion the best result of all - a **160km QSO** from Bolberry Down across to Brittany in France. I was so amazed that this happened, but it most certainly did one fine summer morning.

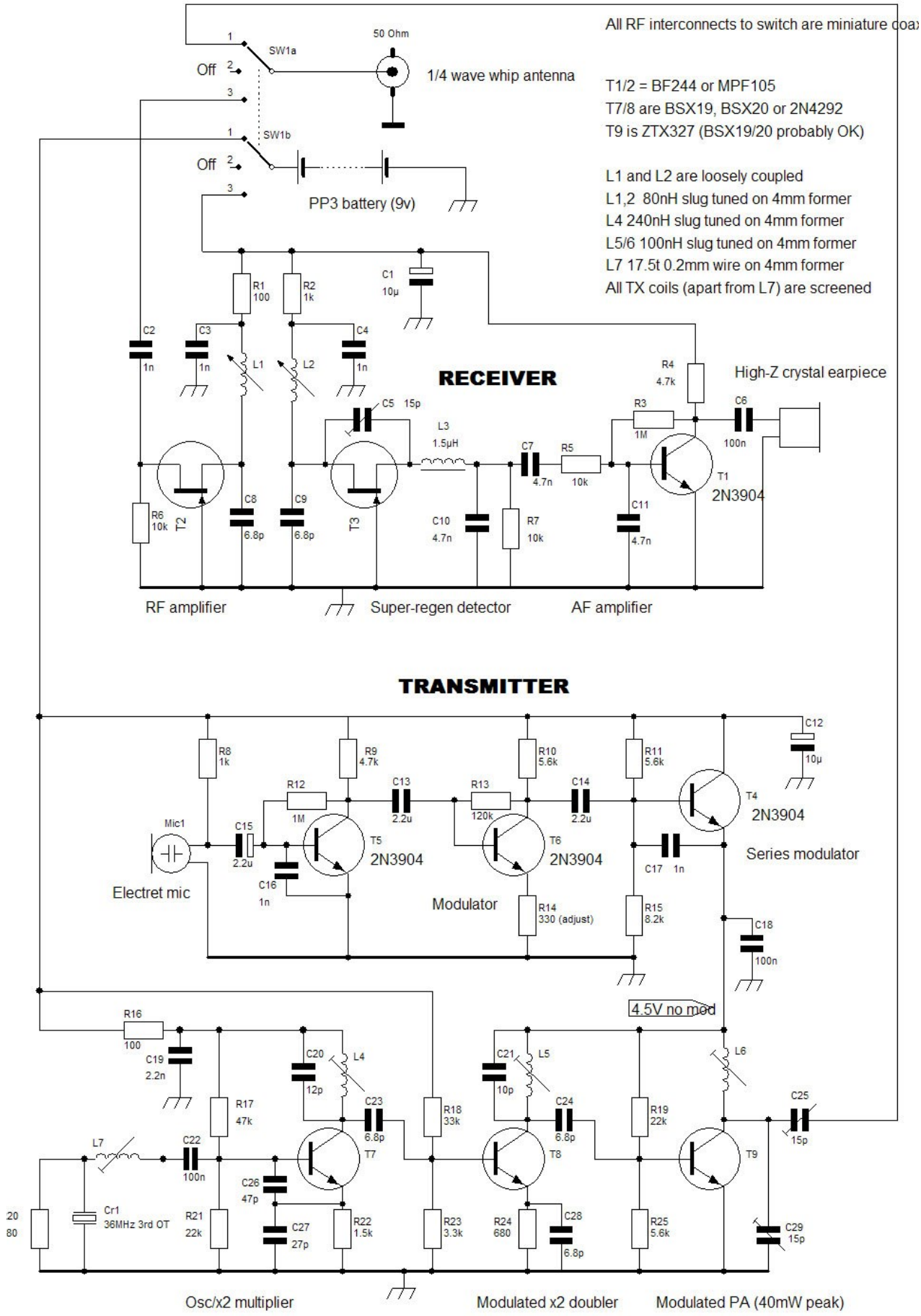
I was so impressed by these results that I submitted an article on the Fredbox to the RSGB for publication in RadCom way back in 1974. The fact that several had been made with good results was testimony to its reproducibility, but sadly the committee of the day thought it was "not suitable for its readers", so the article was never published. One reason cited was the amount of re-radiation from the super-regen oscillator on RX. This was very small, and I do not believe it would have been audible beyond a few metres.

Revival of 2m AM and the Fredbox

Gradually the 2m band became busier and people moved over to FM and SSB. AM all but died out on the band so the Fredbox was consigned to the cupboard and rarely saw the light of day again until this year. With a small revival in AM operation on 2m the Fredbox was rebuilt into the very same box as I still had the box and the built PCB - see photo. It has again been on the air in the Cambridge area and was heard at 76kms away by G1HDQ (using a whip antenna too) when down in Devon, so its STILL works. So, if you hear a weak AM signal calling it may be me.

July 23rd, 2009 I gave the Fredbox an outing and went /P to a local hilltop not far from home. Using a 3/4 wave whip on the rig handheld (quite long!) I had a solid QSO with G6ALB some 16kms to the south of me. He was just using a triband colinear antenna to receive me. I also had QSOs with a 1/4 wave whip and a failed QSO with a small helical antenna. At the same range the 2m AM 10mW rig was received stronger than a 40mW AM SixBox 6m transceiver one, although this may be because the V2000 vertical used to receive both rigs at G6ALB's end is less efficient on 6m than on 2m.

We thank Roger for allowing us to reproduce his article on the Fredbox in our Magazine. The Circuit diagram may be found on the next page. ***Can you build one this small?***



Fredbox 10mW 2M AM Transceiver

Copyright 2006 Roger Lapthorn G3XBM

Galway Radio Experimenter's Club

Our Club Monthly Meetings:
The Galway Radio Club met in the Menlo Park Hotel for the monthly club night. It is generally held on the first Monday of every month, except if it is a Bank Holiday in which case, we meet on the second Monday of the month. We also support a virtual presence via. Jitsi (https://jitsi.org/).
It generally a well-attended night with members being both physically and virtually present.

Focus:
The focus of our monthly club night is, as a rule, all things Ham Radio is about – learning about new things, sharing information on what works (or doesn't work), showing new (or old) pieces of equipment and giving presentations/demo's where we can. Any "club administration" is handled separately by our committee and only bring to the Monday night meeting anything that the club members need to be made aware of. Of course, Monday night club members can also raise questions/ concerns/issues etc. to the committee.

Last Club Night:
Last club night held on the 5th of September, we covered a small number of topics including photos of our Inishbofin trip.

The Boys from Bofin L- R Tom EI3ER, Paul EI5IPB, Des EI5GT, Aengus EI4ABB, Damian EI2HG and Gerry EI8EXB

JOTA/JOTI
We started the night with a visit from Brendan O'Gorman who is a Group Leader & Scout Leader for the 14th Galway Scout Group (www.14thGalway.ie). The main reason for the visit was the annual JOTA/JOTI event which was coming up in October (14th – 16th) and we needed to discuss some of the logistics of the upcoming event.

The 14th Galway Scout Group is a large and active Scout Group with Beaver Scouts (6,7,8), Cub Scouts (9,10,11), Scouts (12,13,14,15) Venture Scouts (15,16,17) and Rover Scouts (18, 19,20,21) members supported by Adult Scouter volunteers. All of this based on the west side of Galway City on the west coast of Ireland.

The JOTA/JOTI event is one of our main events that we enjoy supporting every year, and we cover both HF and VHF bands as well as mobile operating with several handhelds.

There is a change this year both in venue as well as programme – the venue is the Knocknacarra Educate Together National School, and this time it is not a residential weekend i.e. no camping. However, the intent is to provide not only a schedule related to scouting events, but also to Radio, Electronics and Computing using the various facilities of the school.

One of the highlights of the event from a radio perspective is Morse Code. Tom Frawley (EI3ER) brings morse keys connected to buzzers and trains the scouts to create very simple messages which they "transmit". Tom, with his back to the scouts then calls out what they are transmitting by listening – and indeed is even able to help them correct their messages as they "transmit". This has always been a source of amazement for the scouts and so we are looking forward to continuing that as well.

Last year, the scouts were able to talk to other scout groups via. the HF, and a lot of this was being coordinated by Radio Scouting Ireland. Watching the Radio Scouting Ireland "WhatsApp" group, there has been continued, high interest in the sharing of radio with the scouts and I can see that again they are preparing for the JOTA/JOTI event.

We will be adding FT8 based communications to the list this year – it will be interesting to see how the scouts take to that.

Inishbofin Trip
The next topic was our very enjoyable Inisbofin trip and we were very, very lucky with the weather while there. We arrived on a lovely Saturday around midday on 27th August and stayed until the following Saturday where we got the 9am ferry back to the mainland.

We set up the club ICOM IC-756PROIII rig with a HF off-centre dipole on a bazooka pole. We also had a VHF antenna on the top of the same pole. The off-centre dipole was connected to the IC-756PROIII and the VHF was connected to a Yaesu radio which was tuned to the marine channel as well as 145.525 for our "local" communications.

On HF, we made several contacts across the various bands including Trinidad & Tobago on 31st August who were celebrating Independence Day, but in general it was felt that reception was not as good as previous years. Paul (EI5IPB) also brought over his ICOM IC-7300 rig along with an end-fed 40metre long HF antenna and spent some time getting to know it better as well as using FT8 across various bands. FT8 seemed to be a little better than voice, and 80 contacts were made across 26 countries during the week.

We compared the end-fed antenna with the off-centre dipole and found that the off-centre provided better reception then the end-fed. Having said that, the end-fed was setup in a dog-leg manner, to suit the available fences and posts, and it was agreed that this might have an impact.

The club ICOM IC-756 PROIII was used for the

comparisons as it can support two separate antenna inputs so this eliminated the radio as being a factor in the comparison. Next year, we will try and "string" the end-fed across one of the fields at a higher level and see if that will be better to the off-centre dipole.

Des (EI5GT) paid us a visit on two of the nights which was also very welcome, and overall, it was a really relaxing and very enjoyable weekend.

We finished off this part of the club night showing a slew of photos covering the 7 days.

The first one here really shows the weather we had:

It should be noted that members of the club have been going to Inishbofin since 1983 – that is 39 years which is a great tradition. Next year will mark 40 years so definitely something to look forward to!

And finally….

Sunset on Inishbofin Island

FT8 and ICOM IC-7300

Paul (EI5IPB) brought his ICOM IC-7300 rig on the trip to Inisbofin and along with experimenting with the end-fed antenna as described earlier, he spent time on FT8. This is a mode that Paul has setup normally at home, but it proved a little challenging as the rig was being used for both SSB as well as FT8 and continually changing from one set of options to another was painful and sometimes not working. WSJT-X was being used on a Windows 10 laptop, with a USB cable connecting the rig to the laptop. This had worked successfully at home - so a puzzle!

Maintaining the tradition of "writing the club sign and year" on the beach at Trá Gheall along by the Westquarter Loop Walk:

Paul reset his rig several times to try and make it easy to switch between SSB and Data, but it continued to be a painful experience. With some background reading, Paul noticed that with the introduction of v1.40 of the firmware for the rig, there is a "one touch pre-set" for FT8. This "loaded" the necessary settings for FT8 but could also "unload" the same settings to leave the rig back in the state it was before loading. The rig was running v1.41 and the good news was that this was still present.

So, Paul did a full reset of the rig, and then set the basics again - date/time, time zone and callsign. Once set, SSB mode would work, although fine tuning of the various options, e.g. scopes etc. could be done at a later stage.

The next step was to use the new FT8 profile - but unfortunately while WSJT-X "appeared" to be transmitting, there was no actual signal going out.

Failure!

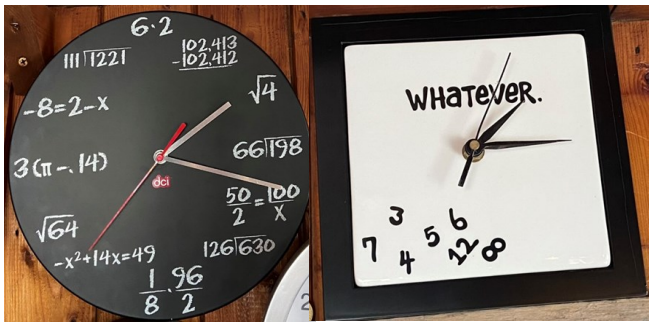
It turned out that there were some settings that were not correct for the pre-installed FT8 pre-set - notably:

USB Keying (CW) - should be DTR
USB Keying (RTTY) - should be DTR
CI-V USB Echo Back - should be ON

Once the above settings were updated in the existing FT8 pre-set, the WSJT-X was able to correctly communicate with the rig and both send/receive transmissions. Success!

At this stage, it is questionable if USB Keying (CR and/or RTTY) needs to be set to DTR - that is a further experiment to be tried. But, CI-V USB Echo Back should definitely be set to ON.

An advantage of using the pre-set is that they can be easily "loaded" and "unloaded" without needing to restart the rig, and it is possible to create new pre-sets for different scenarios - making it a lot more flexible if changing between different ways of working.



We had a feeling that "Bofin Time" is not the same as "Mainland time", and I think this was borne out by the variety of clocks in Murray's Bar – two of which are shown here:

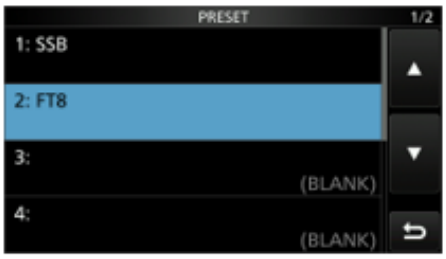
Before anyone says "the default settings worked for me" – this could very well be true – there is no denying that.

However, for my combination of Windows 10, USB Cable, WSJT-X and IC-7300 – the standard FT8 pre-set did not work. However, the ease of changing it to test makes this a great feature of the radio, and it allows for up to 8 pre-sets to exist which can allow the owner to support different "settings" for different scenarios as needed, and to quickly change between them.

For those who may be in the same position, these are the settings that worked for us. Hopefully this may save somebody a bit of time if attempting to do the same as us.

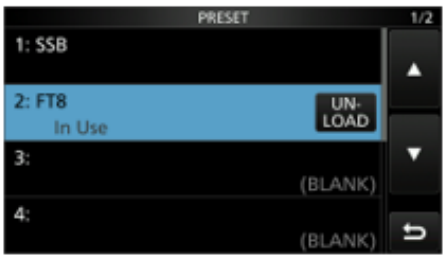
Standard screen for SSB

Touch Menu, then 2



Existing Pre-set options – note that SSB was originally called "Normal"

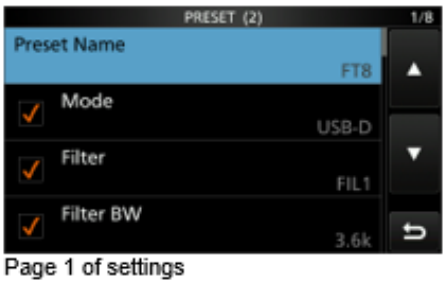
Load the FT8 pre-set



FT8 now in use

Unload the FT8 pre-set to restore previous settings

Edit the pre-set



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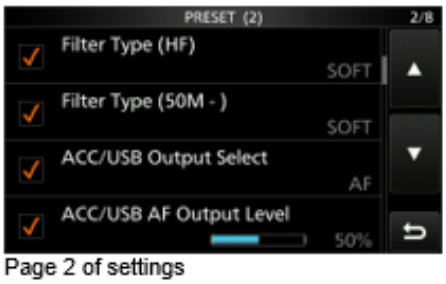

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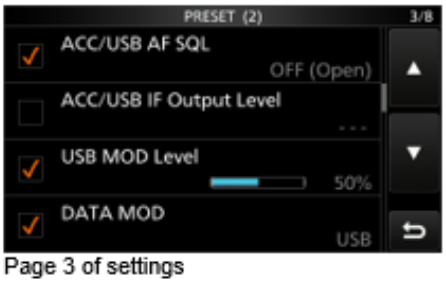

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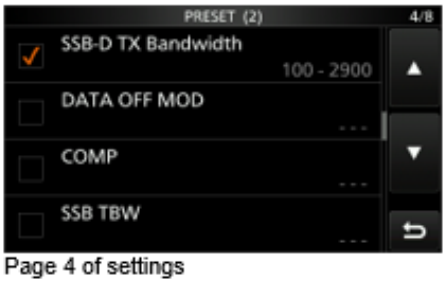

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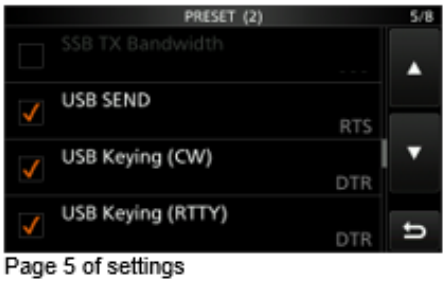

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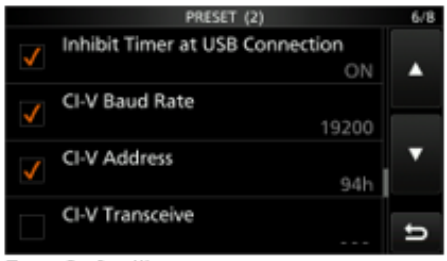

Page 6 of settings

Finally - page 7 of settings

This concluded our club night which covered a large number of topics, Our Next Club Night will be held on Monday the 3rd of October.

73,
Paul EI5IPB
Secretary

Shannon Basin Radio Club

SSB Field Day 2022

The club took part in the restricted / six hours section of the IRTS HF SSB Field Day on Saturday September 3rd. The restricted section permits one transceiver with a maximum output power of 100 watts peak envelope power and a single antenna. Thanks to Tom EI4HCB, a field just outside Roscommon town has become the favoured location for the club's entry in this event each year. Club members bring everything needed to set up a station on the day operating at EI3Z/p. As now well-seasoned contesters, the essentials like food, tea, and coffee are always near the top of the checklist. The contest coincides with the RSGB field day contest so there's great potential to have QSOs with other field day stations across multiple countries.

The club used the tried and tested inverted-vee antenna on 40m and 20m. Band conditions on the day were not ideal with approximately 60 QSOs in the log. The majority of these were in the first hour of the contest. Overall, stations from twelve DXCCs were worked and all mainly single-hop European contacts.

EJ3Z/p crew: Pat EI9HX, Andy EI7IOB, Ian EI3ITB, Paul EI9HQB, Anthony EI6GGB, Brian EI8IU, Fergus EI6IB, and Tom EI4HCB. Missing from photo: Mark EI6JK

Brian EI8IU all smiles as the antenna gets installed

It wouldn't be a field day without the all-important BBQ. Andy EI7IOB trying out Tom EI4HCB's special recipe

Down to business with Pat EI9HX on the mic

Shannon Basin Radio Club

IRTS Autumn 2m/70cm Counties Contest

Operating as EI2SBC/p, Keith EI5IN and Owen EI4GGB represented Shannon Basin Radio Club in the IRTS 70cm/2m counties contest on Sunday September 18th. This was the first time trying a site overlooking Lough Owel just outside Mullingar, Co. Westmeath. It is only 173m above sea level but enjoys a clear take off in all directions. The furthest station contacted was in Wales on 2m thanks to some tropospheric ducting.

Using an ICOM 9700 and swapping between a short Diamond vertical and a dual-band Yagi antenna, Owen and Keith worked eleven stations on 70cm across five counties. During the latter part of both contests, the Yagi was manually rotated to try and pick up any remaining stations. Waterford was the most distance county worked on 70cm SSB. On 2m, they managed to break the thirty QSO mark with 31 stations from fifteen counties and Wales.

Brian EI8IU, Andy EI7IOB, and Pat EI9HX

The view from the site looking from south to west as EI2SBC/p operated in the IRTS 2m/70cm counties contest.

Owen EI4GGB expertly handling the QSOs on the hill near Mullingar. Cairn Hill and Sliabh Bawn are just about visible in the background

It seemed that the number of stations on the air was down on the previous contest and no counties north of Sligo worked this time. However, the number of QSOs and counties was a pleasant surprise to the team given the new location this time instead of Cairn Hill from the previous contest. After the contest and before dismantling the portable station, Keith EI5IN managed a first-time QSO through the Isle of Man repeater which is approximately 200km from the site. Overall, it was a very enjoyable few hours and thanks to all that made contact with us on the day.

Forthcoming Club Activities

Shannon Basin Radio Club restart their weekly SSB nets on 80m and 160m at the end of September. The hugely popular nets draw in stations from across Ireland, the UK, and further afield. The 80m net will restart on Thursday, the 29th of September, starting at 9 p.m. local time in the upper end of the 80m band. The exact frequency will be posted on Shannon Basin Radio Club's Facebook page and Twitter account before the net starts. All are very welcome to join, especially newly licensed amateurs, QRP stations, and portable operators. Information about the restart of the 160m top band weekly net will be advised later. Anyone wishing to learn more, submit SWL reports, or interested about the wide range of club activities are welcome to contact Shannon Basin Radio Club by email at admin@sbrc.ie or via the club's social media channels.

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Continued from page 27 -/—

Shannon Basin Radio Club

Enquiries And New Members Are Welcome

Further information about Shannon Basin Radio Club can be found at the club website https://www.sbrc.ie/ and via their Facebook group and @ShannonBasin on Twitter. Shannon Basin Radio Club has a very active membership drawn primarily from the midlands and west of Ireland but also further afield in the U.S. The club takes part in a very diverse range of amateur radio-related activities with an emphasis on fun, learning, and experimentation. New members are always welcome, and the club would be delighted to receive enquiries from anyone wishing to learn more.

Dundalk Amateur Radio Society

Dundalk Amateur Radio Society is based in Dundalk, Co. Louth Ireland. The society was established in 1969 by a number of like minded amateur radio operators from the Dundalk area. EI7DAR, EI0W, EI2MOG, EI2CCR, EI4FMG and EI7DKD are the amateur radio callsigns issued to the society by ComReg. The Society has its own clubhouse located on the Castletown Road in Dundalk, from this location they hold their monthly meetings and other amateur radio based activities. The next meeting of DARS takes place in their clubhouse at 8:30 pm on Wednesday the 5th of October.

Northern Ireland Radio Club Meetings

The Strangford High Frequency Enthusiasts Group is accepting UK-wide enrolments for the next UK Full licence training programme. They also use Google Meets on Monday evenings. It is completely free, email GI0VKP@gmail.com for details or see the QRZ.com entry for GI0VKP.

On Tuesdays **Carrickfergus Amateur Radio Group** meets in the Elim church, North Road, Carrickfergus from 7pm. All visitors are welcome. Info from gi0usx@yahoo.co.uk

Bushvalley Amateur Radio Club has a club net on Tuesdays at 8.30pm on 145.300MHz. On Thursday, the club meets at The United Services Club, Roemill Road, Limavady. Contact Jason, MI3UIW, via email to Bushvalleyarc@gmail.com

REMEMBER THE MONDAY NIGHT NET STARTS BACK AGAIN TONIGHT 8PM TILL 9.30PM ALL ARE VERY WELCOME TO CALL IN

Mayo Radio Experimenters Network

The Mayo Radio Experimenters Network will hold their next club meeting on Wednesday evening October 5th at 9.00pm in the Breaffy House Hotel, Breaffy. Everyone is welcome to come along in the evening.

Collective Communications

Lighthouses on the air took place on the 21st of August

Alex, John and I travelled down for this annual event after being invited by our friends in Skywave in Cork to experience how they do their activation at Kinsale lighthouse.

We helped logged contacts and meet with many passers-by, who stopped to say hello and see what all the activities were about.

The bands were good, and the pile ups were constant, it kept us all in our toes. After several hours of nonstop radio talk plus a generous number of logs in the book including lots of laughs and stories it was time to hit the road home.

Collective Communications SSB Field Day Operators

Dave EI6GVB "the anchor man"

The trip home was full of talk about the adventures we wanted to have with the radio and what we all have to offer. We were all of the opinion that the wide range skills and experience we have should be used to share the joy and knowledge of this hobby to the best if our ability with a collective of radio enthusiasts, hence forth Collective Communication had now been formed.

We never refuse a cuppa, including cycling tourists from France on a wet day

Skywave / Liam from Cork on the night shift

Our ethos is to help, promote and enjoy all aspects of the radio frequencies from SWL through to CB, aeronautical and amateur radio to mention a few.

After further discussion and the start of a Facebook page now only a month old; we at present have an impressive 145 members. The speed the page grew took us by surprise, people offered help and assist with future activities and are excited for upcoming projects and offered assistance in the form of monetary amounts and equipment and most importantly their time and effort.

Our first outing was for the new group was the SSB field day where we went to Kilmurren cove in Co. Waterford

where we set up camp and the radio station was put into operation. The aerial we used this weekend was 49:1 EFHW and the radio was an FT45D. Bands had been better, but we still managed to log a large number of stations.

We had a continuous stream of visitors, some from France who were cycling by and stopped for a cuppa and a chat, and even the local Gardai who stopped in for breakfast the next morning. Our guests enjoyed listening to both the banter and the airwaves and hopefully we have left a lasting impression and a little knowledge of radioing too.

Sam's birthday did not go without acknowledgement we celebrated with cake and a singsong to mark the occasion.

Our Friends from Cork's Skywave Club turned up to support us and helped us with future planning. The banter carried on into the night and we will be hopefully looking at a busy calendar for next year.

Roisin all steamed up and ready for visitors for a busy ROTA

Railways on the Air took place over the 24th and 25th of September

We arrived to Stradbally Woodland Railway on Saturday morning nice and early to set up out base for the activation. Our hosts Nicola and Nigel couldn't have been more welcoming, and the atmosphere was set for a great weekend. The visitors flowed through where they were kept amused listening to the radios, using the practice Morse key and making fun circuits. They admired all our

Long distance travellers Michael (Skywave) and Eamonn from Tuam, Co. Galway

SWR will make a great special callsign for ROTA 2023..(EI0SWR)

equipment and the set up before heading for a look at the vintage trains and to have a spin on the steam trains.

Plenty of old friends and new group members bought cakes and treats, the kettle was always boiling, and the logbook was busy being filled and pile ups were frequent with the band conditions being very good. The aerial of choice was a 49:1 EFHW for the eighty-meter band. There was an ICOM 7300 in use all weekend and everyone did their fair share of making contacts even Jamie an SWL was asked for during a contact which made his weekend. The effort he puts in with his enthusiastic attitude highlight his interest in radioing and he is eager to learn

Later in the evening, we had supper together and then had an outdoor cinema to help us unwind after a busy day.

All in all, a great weekend with great friends new and old and we have been invited back for other activations.

Our aims and goals for this group is to help through advice and sharing knowledge. Leading a hand and helping each other so everyone's interest in this hobby stays alive and strong. Radioing - be it listening, making or logging contacts is never about 1 individual it's about a collective group of likeminded people doing what they enjoy and appreciate.

Early Learning … age and gender no limits

Wayne Lewis - EI7HKB

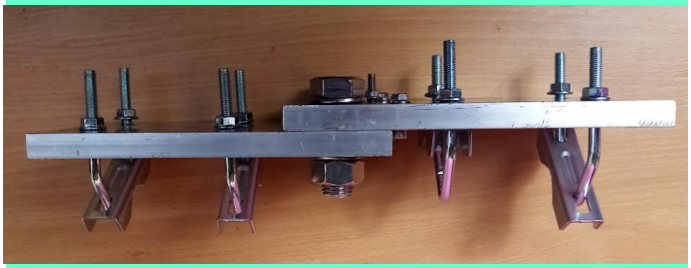
ei7hkb@gmail.com

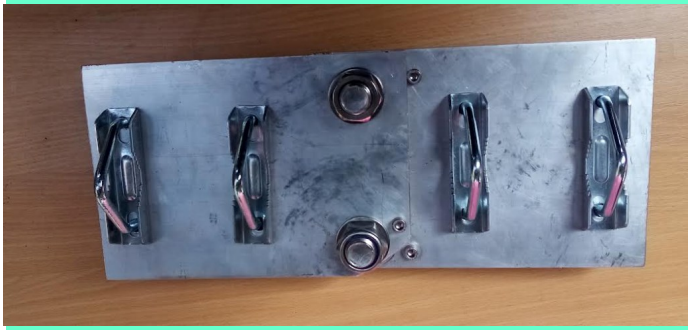
For Sale - Antenna Tilt Plates

Antenna tilt plates for sale **160 Euro** shipped via DPD within EI suitable for Hex, Cobweb and Yagi antennas that are on a tilt mast to make maintenance and repair easier. Overall 30mm thick aluminium plate design, each side of the plate being 15mm.With 30mm on its overlap with stainless steel pivot and nyloc nut hardware for added flexibility. With a set of dual heavy duty V clamps on the upper and lower plate allow for universal mounting onto a variety of masts and antenna stub masts which can accommodate mast and stub poles up to 50mm in diameter which are then secured into the V clamps by its clamp and Jaw hardware.

These are new and are handmade and never been used.

Contact: Charlie Carolan
087 6265418
or
charlie.carolan@gmail.com





RSGB Radio News Services From GI

10:00 3640KHz LSB Dungiven

12:00 TG2354 Time Slot 2 BM Network

19:30 TG 880 Time Slot 2 Phoenix Network

Shannon Basin's Automated Stations

Sliabh Bán Repeater O/P: 145.775 ,I/P :145.175, CTCSS 88.5

Roscommon Multimode Digital Gateway EI2BED 144.8625 MHz

Current Systems Active in Galway

70cm DMR Repeaters

EI7RHD	**I/P 430.450**	**O/P 439.450**	**CC1**
EI7LRD	**I/P 430.475**	**O/P 439.475**	**CC1**
EI7AKR	**I/P 438.425**	**O/P 430.825**	**CC1**
EJ7IBD	**I/P 430.500**	**O/P 439.500**	**CC1**

Yaesu Fusion Repeater

EI2KMR I/P 145.025 O/P 145.625 Wires –X

Gateways

EI2SHD	**144.8125**	**Wires-X Gateway**
EI2GCD	**145.850**	**P25 Gateway**
EI4GCG	**70.425**	**ALLSTAR node**

What is Waiting in the Wings?

1 x 70cm D-Star Repeater

1 x 70cm DMR Repeater completing the network to the South East.

Dates for the Diary

Comoros DX-pedition 5th - 17th of October

RSGB Ham Fest / Convention 7th - 9th of October

AMSAT UK Colloquium 8th - 9th of October

International Air Ambulance week 9th - 17th October

JOTA 14th - 16th of October

FISTS Autumn Gathering 22nd October

Saint-Malo Radio Club Special Event

October 27th and November 6th.

Bush Valley ARC Rally 6th November

December - YOTA month

RSGB

The Radio Society of Great Britain (RSGB) is the national membership organisation of amateur radio enthusiasts. The society was founded in 1913 and incorporated in 1926. The Society is dedicated to the development of the science and practice of amateur radio. It works to increase awareness and understanding of amateur radio and to make the hobby accessible to everyone. Amateur radio licences were issued to the first UK radio amateurs in 1934. The RSGB represents the interests of UK licensed radio amateurs and is a not-for-profit organization that:

- Promotes the general advancement of the science and practice of radio communication or other relevant subjects.
- Facilitates the exchange of information and ideas on these subjects among its members.

The RSGB aims to obtain the maximum liberty of action consistent with safeguarding the interests of all concerned. RSGB membership is open to all who have an interest in radio communications. The national governing body (The Board) is elected nationally. The regional governing body (The Regional Council) is elected on a regional basis. The day-to-day management of the society is under the control of a small team of full-time employees who are based at the society's head office in Bedford. *RSGB Membership is just £59.00 and this includes 12 monthly technical magazines.* Affiliate your club and get the opportunity for all members to log in and read the online publication of RADCOM, RADCOM Basics and RADCOM Plus as well as receiving a hard copy of the Magazine for the Club. Apply here: https://rsgb.org/main/join-us/join-the-rsgb/

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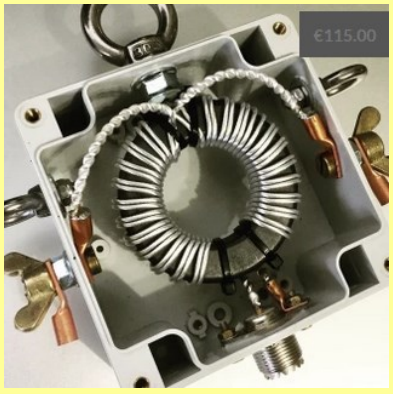

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